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# JOURNAL OF PSYCHO = ASTHENICS

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September and December  
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March and June  
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## THE CORRELATION OF THE SCIENCES\*

BY W. N. BULLARD, M. D., BOSTON, MASS.

GENTLEMEN AND LADIES:—Before entering on the substance of this address, I wish to express to you my appreciation of the honor that you have done me in choosing me as president of the association for this year.

I had thought at first to follow the old custom of presenting to you a syllabus or resume of the condition of our specialty in some of its scientific aspects, but on further consideration such work seemed to be rather in the nature of a compilation and a criticism than of that serious character which should call forth thought, even if it can produce nothing new. I shall therefore, to-day, present to your notice some aspects of a general truth which, though logically admitted by the thoughtful, is yet not so fully settled in practice as to be a guide in our actions. No one department, division, or subdivision of science can long and profitably exist, much less grow, enlarge and prosper, unless by

\*The president's annual address delivered at Chippewa Falls, Wis., June 21, 1909.

the help, support, assistance and guidance of the other branches and divisions which are related to, or coterminate with it on all sides. It may be possible, on account of a peculiar conjuncture of circumstances, that for a short period some one division or branch of knowledge may be largely isolated, but in order that any real progress should continue it is found by stress of nature always to take refuge in the sympathy and aid of the cognate branches. Without this recognition it becomes narrower and more constricted until finally its conclusions become erroneous and its practices harmful.

These general considerations form but the introduction to the more special consideration of our own case and to some deliberation on the practical results to be achieved by a wide and liberal action.

The last fifty years may truly be entitled, "The Age of the Birth and the Formation of Specialties in Medicine." With the unprecedented rapidity of the increase of scientific and medical knowledge, with the introduction of new forms of medical investigation and new instruments of scientific precision, each branch of medical knowledge and practice offered opened large fields of investigation previously unexplored and now comparatively easy to enter into and promising to cultivate. Thus well trained and highly educated men found themselves interested in these new and special lines of work and devoted their lives to the study and the practice of special branches of medicine. Among these we must consider our own specialty as a peculiarly limited one. It is, as it were, a division of a specialty. While the study and the care of the feeble-minded offer a full and, in my opinion, a most interesting and valuable occupation for a man's whole life, it is peculiarly important for those of us who have devoted our lives to these things to remember that in certain directions it is a very definitely limited subject. More than almost any of the ordinary specialties in medicine it is removed from cognate subjects and cognate interests. This work is capable of being made of the highest value and of the most progressive character. Yet, unless the physician who devotes himself to this work broadens and widens himself and



takes in the cognate branches of science there is danger that he may become one-sided.

No thoroughly trained, educated and broadly cultivated man should permit himself to become a mere overseer of institutions or competent manager of a farm and its appurtenances. A glance at the former position of the superintendents of some of our hospitals for the insane shows us that dangers of this sort are not chimerical. Time was, and that not many years ago, when there was great danger that many of these superintendents would lose their hold on the profession and become administrators only. They had, it is true, a special charge, but none the less their primary duty was rapidly being narrowed into that of organizing an institution thoroughly so that, while the inmates were suitably and kindly cared for, they should cost as little as possible and the authorities should be able to credit the superintendent with the ability to manage the institution satisfactorily in general, but more especially skillfully and economically from a financial point of view. Such a superintendent was expected to know the prices of all the articles he needed to buy and to be a good bargainer. He should himself be an excellent steward. But in addition to this he should have a little higher knowledge; he should be able to raise vegetables and crops on the land belonging to the institution, with the help of the inmates, so cheaply that money could be saved which would otherwise be needed to buy them. He should also know how buildings should be built; the difference in the various grades of lumber; how electric wires should be insulated. If the superintendent had this knowledge and could do these things as well or better than his colleagues, and if he was able to avoid complaints or scandals in his hospital management, he was a success; and if he could get money for his institution through the legislature or otherwise, he was still more a success. Medical knowledge among these men was at a discount. What was the use of medical knowledge in dealing with incurables? If intercurrent disease or contagious disease broke out among the inmates, it was a misfortune to be dealt with medically by the young assistant who having been recently graduated, had

not forgotten all his medicine; and politically or socially only, by the superintendent.

Thus in many cases the superintendents of institutions for the insane were becoming organizers, managers and stewards. Their general medical knowledge was small and out-of-date; their special medical knowledge, beyond a certain skill in the diagnosis of mental disease in general which they could scarcely avoid, was devoted to speculative classification absolutely limited to their own specialty. They were rapidly growing away from their own profession. Other physicians cared nothing for psychiatry, were absolutely ignorant in regard to it, and never desired to know more than to be able to certify to the insanity of a patient and to have him removed to a place where he would be cared for. There their responsibility ceased. The physicians who dealt with the insane in institutions felt themselves apart from the rest of the profession. As before said, they knew little, or no general medicine; they had no special interest in it. They did not attend the meetings of the medical societies of their state, or county, or city. They formed a class by themselves. Being experts on insanity, they saw much more of the lawyers when they did any medical practice or work—for they often testified in court—than they did of other medical men. This class of men—were it not for their court practice—was in great danger of being removed from the position of physicians in actuality. They were specialists in insanity, organizers and stewards, but not general physicians or practitioners. From this position the psychiatrists have been awakened, at least partially. Various causes have led to this result. Weir Mitchell's famous address turned the attention of the profession as a whole, as well as that of the superintendents themselves, to this state of affairs. Psychiatry began to be better taught in the medical schools although even at the present day its condition, as regards instruction in this country, is pitiable. But more important than all else a new spirit has entered into many of the younger psychiatrists. Superintendents are beginning again to ally themselves with their other medical brethren. Clinics at the institutions for the insane are opened for the general medical

practioner. The psychiatrist sometimes attends a general medical meeting and almost feels himself a real member of the profession.

I venture to bring before you to-day for your consideration these well known facts because in certain respects we, engaged in the treatment or care of the feeble-mindd, have been exposed to the same dangers as the psychiatrists. It is one of the highest functions of this society, it is one of the things for which it stands foremost, for which it is most valuable, that it enables us to avoid these dangers. It brings to us all ideas, thoughts and suggestions from specialties not our own. It is evident that all divisions or departments of knowledge are connected with each other directly or indirectly. In some, the connection is so close that their boundaries may be said to match or even to overlap. In other cases the connection is indirect and distant. Taking another point of view, some touch all along a given line so that one side of the science cannot be studied without a knowledge of the cognate sciences, while other sciences touch or approximate each other only at one or two points. Those sciences which are so closely connected that a thorough study or comprehension of one is not possible without a considerable knowledge of the other, may be said to be coterminous, or their boundaries may be said to match for a greater or less extent. In the study of our own specialty, the care and treatment of the feeble-minded, numerous other branches of knowledge are not only useful but necessary. From the medical point of view there is, first, general medicine; secondly, morbid pathology (in the sense of the study macroscopic and microscopic of the tissues and organs of the body diseased or abnormal); thirdly, the especial study of psychiatry is very valuable and its cognate science not yet sufficiently appreciated since it is only rising out of the slough of subjective theories, psychology.

This science leads us back again to another side of our specialty through pedagogy or the science of teaching. The relation of the science of teaching to the feeble-minded has only lately been thoroughly estimated and through the application of knowledge of this character many of our problems are likely

to be solved. Psychology itself is also directly connected with our work. Certain psychological problems can best be solved with such material as we have under control, while only by a clear acquaintance with known psychological facts can we understand the significance of many of the symptoms and conditions which are presented to us, or do the best possible to cure them, to alleviate them, or to turn them to the advantage of the possessor.

Philosophy, closely related to psychology, is, though valuable, of less practical importance to us and comes only within the circle of those subjects secondarily related. But with general medicine, morbid pathology and psychiatry, with the study of pedagogy, or psychology, and perhaps philosophy, we have only summed up the branches of science most closely related to our study on two sides. There are other sides to our work and other branches of knowledge. Still other related departments of knowledge will appear as our understanding of our subject is more thorough and intimate. Not merely those branches of learning which appear the most closely related are the only ones which are of importance. Sometimes a science apparently most remote is the cause of the greatest step in advance in the one we are engaged in. The discovery of the aniline dyes was the cause of much of the knowledge we have gained in pathology. The study of optics produced the microscope.

The high function of this association in widening and broadening the scientific sympathies and knowledge of all its members is secondary only to that of bringing them together into personal contact and into a better and more personal acquaintance with each other.



## A GROWTH CURVE FOR FEEBLE-MINDED CHILDREN, HEIGHT AND WEIGHT

BY HENRY H. GODDARD, <sup>fl</sup> M. D., VINELAND, N. J.

This study of height and weight of the feeble-minded is especially the work of this association. You contributed the data; I have worked them out.

In the curves the data have come from thirteen institutions. One or two others have sent their data in since I left home; there are some that are getting them ready; and I have found, since coming here, that there were one or two who by some curious mischance have never been asked to contribute. I should like to say—you will see it when we come to look at the curves—that we have not yet enough data. I should be very glad to have any of you who have not contributed the height and the weight of your children, furnish them if you can do so. I may say, in that connection, that we do not need any more cases over thirty years of age. All the rest we should like very much indeed; especially should we like cases between twenty and thirty. I was encouraged by the records that came in from this institution at Chippewa Falls to think that we might even get some sort of a curve under five years of age. If any of you know of individual cases under five, I should be very glad to have them.

The upper group of curves represents weight; the lower, height. That is true of all the charts. For the upper group—the weight—the ages are across the top and the weight in pounds is given at the side. For the lower—the height—the age is given at the foot of the chart and the inches at the side. The black lines are in all cases the lines of normal children. That curve is taken—mostly from the ages of six to eighteen—from Burke's Compilation of all the American Statistics. Under six and over eighteen, it is taken from the English. The solid red line is the curve for all defectives, without any attempt to divide them into grades. By the other three lines we represent the idiot, the imbecile, and

the defective. This line represents the idiot; this, the imbecile; and this dotted one, the feeble-minded group. We see, from looking at the curve, two or three rather striking things. Let me call your attention to the fact that we have been able to run that red line down to birth. It is rather interesting that in one hundred and sixteen cases of weight at birth—these were all from our institution—they average heavier than the weight of normal children at birth. The idiots are the heaviest, the imbeciles come next, and the feeble-minded follow. The feeble-minded are almost as light as normal children; however, they lose that advantage you see. This is based on very few cases. It looks as though they lost the advantage within six months almost, and from that time they are practically almost never above, and, with the exception of the highest group, never up to normal; but they do run along parallel to the normal until the age of nine, which is represented here. The idiots are from four to six pounds lighter than normals; the imbeciles are from two to four pounds lighter; the feeble-minded do not differ very much from normal. We had no feeble-minded boys at the age of five in all the data that were sent in. They run parallel, which means, of course, that they are growing at the same rate. They are not as heavy, but increasing up to nine. At that point the idiot group falls. They never again come up anywhere near the normals. The imbecile follows along very closely to the normal until fourteen, and then he falls back. The feeble-minded follows on with practically no difference from the normal until the age of nineteen, and then growth is stopped. Normal boys go on until twenty-two, when they have attained their maximum weight.

The same thing is seen in the course of height. Here they run on from nine, when the idiot falls away. At fourteen the imbeciles drop away. For the feeble-minded we could take nineteen as the age; at least on the figures we have now. We should have to regard seventeen as the point at which they fall away from the normals; that is to say, their energy for growth upwards ceases earlier than their energy for growth in weight, and I take it that that means that the vitality, the growth energy of

mental defectives runs exactly in that way. This points to what seems to be a most suggestive thing. We know, from a great many studies of normal children and adults, too, that there is a very close correlation between physical growth—in some sense, at least—and intellectual capacity. It has even been demonstrated that to a certain slight extent, in the mass, the brighter children in school are the taller; the taller children are ordinarily brighter than the short and light ones. After we have tested the mental capacity of our children long enough, we shall be able to find out whether their intellectual growth runs the same way as their physical growth. If so, whatever of training the idiot can take he must get before nine; the imbecile, before fourteen and the feeble-minded, before nineteen.

I will call attention to one other thing. After twenty, the lines are very crude because we have not enough data.

We have practically the same thing on the girls' chart. The idiots are way below. With the imbeciles the curve is much more erratic.

The main thing to be noticed here, however, is this: recalling the normal growth curves for boys and girls you remember that the boys grow taller and heavier up to between eleven and twelve; then the girls take a sudden upshoot and keep ahead of their brothers until fifteen, when their brothers again go ahead. That is due, to a very decided acceleration in the growth of the girls—adolescent acceleration in growth as it is called.

Take our feeble-minded, now. At twelve years they are below normal; from twelve to thirteen they grow exactly in the same ratio as the normals; but from thirteen they take a shoot up very much more rapidly than normals.

If you look at the situation there does not seem to be any reason why feeble-minded children should grow abnormally fast; there is every reason why they should not. They have bad heredity and bad environment, usually, until we get them. After coming to the institution they have a regular life and a sane, normal existence, being well fed and well cared for. It may be said that the normal group is not so good as that because it includes slum children, but such is not the case. All

our statistics are based on school children, and the slum children are eliminated from the schools before thirteen. This very curve with which we are making the comparison is based on a splendid group of children; children of very fair heredity, if not excellent; good home surroundings; a group of children having apparently every advantage over our children. The only thing left seems to be the condition of things as they exist with these children. What are they? In the first place, it is the beginning of the puberal period. We are having those enormous physical changes which are even more severe than the changes at birth, and at that time they are either taking their last year in the grammar school or entering the high school. Their work is very heavy; it is measured out for their brothers,—for the boys in the school. The task is set more in accordance with what the boys can do than with what the girls can do. Everybody expects boys will shirk, so they make the course that much longer. The girls, being too conscientious to shirk, simply worry over it. Furthermore, it is the time when girls begin to put on corsets, which I understand may be taken literally to mean that it is a time when they begin to interfere with the normal circulation; and taken figuratively, to mean that they are beginning to enter society, to be out late at parties, to lose sleep, to be troubled over the other girl's brother, and all those things, which must create a mental condition that interferes with growth. If our interpretation is right, it seems to be that our feeble-minded children are not growing abnormally but as normal girls ought to grow; that normal girls are retarded, and while they do accelerate, they do not accelerate as they ought to.

I have drawn the curves of the lowest grade of idiots, both boys and girls, to see if they followed the same law of crossing that the normals do. The girls are ahead of their brothers from eleven to sixteen; they keep ahead a little bit longer than normals. If normal girls grew more normally, they would keep ahead of their brothers a little longer.

In height the situation is different and difficult. There is no crossing except just at that point, and the curves are so crooked it looks as though it ought not to be there. We should like



to know whether in height the girls in the idiot class never get ahead of their brothers.

#### DISCUSSION

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Dr. Bernstein: In connection with the puberal period, thirteen to fourteen, I wonder if the nervous manifestations are not more marked in normal girls than in feeble-minded ones. The appearance of the menstrual period means nothing to the feeble-minded girl; it does to the normal one. In connection with this dropping off of feeble-minded from nine to fifteen, I wonder if that might not suggest to the institutions that they would better look after their diet? Perhaps we are feeding such persons an infantile diet when we ought to begin earlier on the adult diet.



## THE HIGH-GRADE MENTAL DEFECTIVES

BY WILLIAM N. BULLARD, M. D., BOSTON, MASS.

As the careful and scientific clinical study of the dependent classes advances our knowledge of the various grades of mental development and of mental power increases and we are able to distinguish with more certainty the higher degrees of mental impairment. These higher degrees can only be thoroughly studied at present in connection with some institution where detailed histories of the patients covering a term of years are available.

A chief difficulty in our classification and grading of these cases is that even the experts have not sufficiently realized the inequality of natural and pathological development. It is only in a modified way that intellectual ability can be accepted as a test for the mental powers. Other mental qualities have a large part in the sum of mental characteristics which may make up the mentality of the normal child. Among these is, first, the moral sense.

Secondly, we have a class of persons who are only slightly weak in power of intellectual acquisition but are wholly lacking in practical judgment. Again, there is another class whose difficulty seems to be lack of self-control. We should be most guarded in making any diagnosis of mental irresponsibility and this should only be done in carefully observed cases. Great care should be used in diagnosing a case as one of moral imbecility.

Our real question is, What must be done for this class? We shall consider for the present only the females as for evident reasons the need for them is the most pressing.

Girls of the classes described must be cared for by the state. The reasons for this are: (1) There is no class of persons in our whole population who, unit for unit, are so dangerous or so expensive to the state. This excepts no class, not even the

violently insane. They are much more dangerous and expensive than the ordinary insane or the ordinary feeble-minded or the ordinary male criminal. Why is this? They are dangerous because being irresponsible wholly or in part they become the prey of the lower class of vile men and are the most fertile source for the spread of all forms of venereal disease. They have not the sense or understanding to avoid disease or any care as to its spread.

They are most expensive to the state because they are the most fruitful source of diseased and mentally defective children who are apt to become state charges.

It is but a sign of financial wisdom to pay two dollars now to avoid paying one hundred in the future. It would be wise without consideration of the financial question to pay well now simply to avoid the public spread of foul disease. Syphilis is on the whole much worse than small pox.

The details of the provision for these cases must be settled in every state, according to their special conditions.



## THE IMBECILE WITH CRIMINAL INSTINCTS \*

BY WALTER E. FERNÁLD, M. D., WAVERLEY, MASS.

In this paper, I shall briefly consider the class of imbeciles who as a part of their life history present certain persistent tendencies or repeated acts of a criminal nature. I use the term "imbecile" advisedly as an adequate synonym for the many different expressions used to describe various degrees of lesser mental defect, resulting from causes operating before birth or in early childhood, as contrasted with mental impairment or disease developed later in the life of the individual, like dementia *præcox*, epilepsy, etc. Cases of actual idiocy are also excluded from this discussion.

The term imbecility was formerly applied only to a class of persons presenting simple, obvious intellectual shortcomings. The field of mental defect has been gradually extended and widened so that the time-honored definitions and classifications have become incomplete and obsolete. To-day institutions for defectives are often expected to receive patients where the intellectual defect is apparently only moderate, and the principal reason for institution treatment is the failure to harmonize with the environment as shown by low tastes and associates. In other cases the prominent symptoms are general incorrigibility, purposeless and needless lying, a quarrelsome disposition, a tendency to petty stealing, a propensity for setting fires, aimless destruction of property, a tendency to run away and lead a life of vagrancy, sexual precocity or perversions—these may be the symptoms which impress the parent or the physician..

The recognition and understanding of these and other less obvious phases of defect are largely due to the correlation of the results of the modern scientific study of normal psychology, pedagogy, degeneracy, criminology and sociology.

\*Read by title at the sixty-fourth annual meeting of the American Medico-Psychological Association, Cincinnati, Ohio, May 12-15, 1908. Also at the meeting of the association at Chippewa Falls, Wis., June 21, 1909.

A brief review of the ordinary phenomena and symptoms of imbecility is necessary for the proper interpretation of the cases to be described. From a biological standpoint the imbecile is an inferior human being. If the mental defect is due to direct heredity or to developmental abnormalities of the central nervous system having their genesis in the ovule or in foetal life, the various anatomical, physiological and psychical stigmata of degeneracy are usually present. Indeed, in no other class of human beings are these various stigmata found so constantly, so frequently and so well-marked as in the congenital imbecile. If the mental defect is caused by traumatism, or acute local disease, or other causes operating at birth or soon after birth, the physical stigmata of degeneracy are often absent.

Some of the physical evidences of mental defect are as follows: abnormalities in the size and shape of the skull and cranium; in the size, shape and weight of the brain; variations in the size, shape and relative position of the ears; abnormalities in the form, situation, and structure of the teeth; protruding lower jaw; congenital deformities of the hard palate; pallor of the skin; scanty beard, etc.

Imbeciles of all grades exhibit in varying degrees certain well-marked mental characteristics. In mere memory exercises they may excel. They have weak will-power. The power of judgment is defective and uncertain and often determined by chance ideas, not by the outcome of past experience. Thought is scanty, limited mainly to daily experiences. They are unable to grasp and utilize the experiences of life.

Pronounced backwardness in ordinary school studies is, of course, a constant feature of the uncomplicated cases. At the end of his school life, at the age of 15 or 16 years, the imbecile may be able to read in the third reader, to do simple addition and subtraction, and easy multiplication. Division is not often achieved.

Imbeciles are childish even in adult life. They make friends quickly and are cheerful and voluble. They are boastful, ungenerous, ungrateful. Notwithstanding their stupidity, they are cunning in attaining their own ends. They seem to have but lit-

the sympathy with distress or suffering. They are often cruel, especially to small children or weaker persons. They seem to take special delight in stirring up trouble and are often fond of tale-bearing.

They are vain in dress and love bright and gaudy colors. They like to be well dressed, and are indifferent to cleanliness of body.

In actions and conversation their own personality always comes into prominence. They manifest unbounded egotism, leading to marked selfishness. Their whole life revolves around their own personal well-being and the possession of things desired.

They are prone to lie without reason and often lie unhesitatingly when truth would be to their own interest. They are inclined to steal.

They are morally insensible. As a rule, they are able to carefully differentiate in the abstract between what is right and what is wrong as applied to their personal environment, but in practice their ability to make these distinctions bears no relation to their actions and conduct.

They seldom show embarrassment or shame when detected in wrong-doing. I have never known an imbecile to exhibit traits of remorse. Correction or punishment is of little effect.

They revel in mawkish sentiment. They are susceptible to the emotional phase of religious expression. They are very apt to choose intimate companions very much younger than themselves, or persons very much beneath them socially or below them in the scale of intelligence. They are generally cowardly in the presence of actual physical danger. They are very susceptible to suggestion and are easily led.

They show marked physical insensibility. Galton says, "To the imbecile pain comes as a welcome surprise."

Few imbeciles have been seen to blush. They show an early craving for tobacco and alcohol. They are proverbially lazy and fond of idleness. They seem incapable of forethought.

Imbeciles of both sexes usually show active sexual propensities and perversions at an early age.

There are two traits common to all imbeciles with few exceptions. One is that they will cheerfully risk severe punishment for the sake of some slight gain which appeals to their personal desires. The other is that they seem unable to apply themselves continuously in any one direction. The imbecile often becomes skilled in some one line, perhaps in some branch of a mechanical trade, but unless under the closest supervision, he will not apply himself to the work which he is perfectly capable of doing well.

The above generalizations apply to a very large number of the imbecile class. Many of these symptoms and tendencies may be appreciably modified or suppressed by suitable environment and training. The expression of these tendencies is varied according to sex, age, state of physical vigor, opportunity, etc.

The cases to be reported were selected from the 1236 patients now in the Massachusetts School for the Feeble-Minded. They include various degrees and types of defect, from cases bordering on actual idiocy to so-called "borderline" cases, where the mental impairment is slight compared with the moral and social deficiencies. Some of these cases now in adult life have been in the school continuously since early childhood. Other cases, at large in the community until the time of puberty, were then sentenced to the reform school by the criminal court and thence transferred to this school. Others were referred to the school from the community without an actual criminal court record.

In many cases repeated acts of a criminal nature have been committed in the community. In other cases the persistent criminal tendencies have been expressed only as modified by institution conditions, but I have no hesitancy in classifying these "criminals who have actually committed no crime" in this group.

The tendency to promiscuous and precocious sexual vice, common to all types and degrees of imbecility, is considered only as incidental and corroborative evidence.

Case I.—F. M., female.

Age when admitted, 18 years. Personal history very meagre and nothing known of ancestry. It is known that this patient has been a prisoner at the State Industrial School, at Sherborn prison, and in various jails and houses of correction. She was a state ward and was placed out in families several times, but al-

ways absconded after the theft of money and other articles. The experienced court officer who brought her to the school stated that in her language and in the freedom with which she discussed her various escapades, she was "the most brazen and depraved human being he had ever seen." She gloried in her misdeeds and unblushingly related stories of her various adventures. At times she shamelessly revealed her sexual propensities. She stole everything she could get her hands on. She was wantonly destructive of property. Even attempted violence toward her attendants. Showed ability as an organizer and as an inciter of rebellion and mischief.

Degenerative stigmata: Supra-orbital ridges prominent. Zygoma prominent.

Present age 22 years. Reads in 4th reader. Is fond of books and magazines. Expresses herself fluently and well. Adds and subtracts slowly to 20. Cannot multiply  $4 \times 5$ . No division. Patient is childish in her ideas and tastes. Conceited and egotistical. Sly and cunning in small things, but shows lack of caution in concealing her serious lapses in conduct. Kind to children. At several periods has shown a marked infatuation for patients much her inferior mentally, and who were, in fact, of a very low grade of mentality. She has never chosen as her particular chums, patients of her own grade. Easily influenced by people of whom she is fond, and is scrupulously loyal to her special chums. She is selfish and ungrateful. She is always in sympathy with any evidences of rebellion or insubordination. At first was quite slovenly and careless in her work. Of late, she has become more particular, and to-day, with close supervision, is quite the equal of the average seamstress. Without supervision the quality of her work at once becomes poor.

Case II.—J. C., female.

Age at admission, 17 years. Paternal grandfather and grandmother both insane. Father and mother not up to the standard mentally. Mother had convulsions to age of six years. Patient dishonest, untruthful, destructive. Could not apply herself in school work. Liked to play with younger children. Had convulsions in early childhood. Wet bed until 14 years old. Showed no remorse when detected in theft. Would tell lies without any apparent reason. Was at "George Junior Republic" for a while. Says she was "in jail" there almost continuously for lying, stealing and general incorrigibility.

Degenerative stigmata: High, perpendicular forehead. Receding chin. Small mouth. Ears badly made, with adherent lobules. Teeth badly placed. Face markedly asymmetrical.

Can read in 4th reader. Likes to read story-books and maga-



zines. Penmanship good. Uses language intelligently. Adds and subtracts by hundreds, and multiplies by two or three figures. No division. Patient is childish, deceitful, boastful. Likes to tell stories of her connection with men and boys, although her family say these stories have no foundation in fact. Likes to change from one thing to another, but does fairly good work under supervision. Likes to be well-dressed, but has to be forced to wash neck and ears. Forms violent attachments towards other patients. Chooses very defective patients for her chums. Indolent, untidy. No affection for relatives. Gloats over her misdeeds. No shame or remorse. Shows absence of motive by stealing things for which she has no use.

Case III.—F. S., female.

Age when admitted, 16 years. Colored. Committed to State Industrial School when 14 for stubbornness and violence towards brothers and sisters. In a fit of jealousy tried to kill baby brother. Mother was ugly tempered and quarrelsome. Girl wet bed until 16 years old. Had attacks of irritability and violence during which she walked about aimlessly. Always incorrigible. Ordered out of public school at age of 12.

Degenerative stigmata: Prominent zygoma. Face asymmetrical. Ears gross, with adherent lobules and exaggerated details.

Present age 22. Reads easily in 4th reader. Likes to read newspapers, books and magazines. Slow of speech but expresses herself well. Handwriting admirable. In number work can add slowly to ten, but not above that. Can tell time by five-minute intervals. Patient is vain, fond of dress and of ornament. Selfish. Exceedingly proud of whatever she does herself. Disobliging, stubborn, often sulky and rebellious. Shows no affection for relatives. Has attacked other patients and attendants in fits of temper, brought on by failure to get her own way. Can do beautiful laundry and other work, but will not do it unless very closely supervised. Sexual pervert. Her indecent actions with other patients are carried on regardless of the presence of others.

Case IV.—M. B., female.

Age at admission, 15. Mother intemperate. Father in prison on charge of assault and sexual connection with this girl and an older sister. Persistent thief and liar. Sexually precocious.

Degenerative stigmata: Deep orbits. Face asymmetrical. Ears asymmetrical, with adherent lobules. Palate high-vaulted. Teeth badly placed.

Present age 17. Reads in 3d reader. Likes to read story-books. Uses language expressively and fluently. Adds and sub-

tracts sums in three figures and multiplies by two or three figures. No division. Can tell time by five-minute intervals. This patient is selfish, conceited, egotistic, indolent. Lies habitually with no motive. Sly and cunning in attaining her own ends. Selfish and grasping. Very ungrateful in every way. Has been taught to do work under supervision. Will not work if not watched. Deceitful, unreliable. Silly and childish in her behavior and actions. No modesty. Steals things for which she has no use. An inciter of mischief and insubordination. Loves to talk of crimes and criminals. Referred to school by criminal court after persistent habits of thieving, etc.

Case V.—K. N., male.

Age when admitted, 11. No family history. No personal history previous to admission.

Degenerative stigmata: Bushy eyebrows, meet in center. Heavy supraorbital ridges. Deep orbits. Ears crinkled and dissimilar in shape and position. Face asymmetrical. Palate high-arched. Very deaf.

Present age 21. This patient was in school classes from the time of his admission until he was 18 years old. He is now able to read fairly well in 3d reader. Reads newspapers and magazines intelligently. Has a good vocabulary and uses language understandingly. Can add numbers to 10 accurately, but cannot subtract these numbers. Cannot subtract or multiply. Patient is vain and boastful. Excels in athletics and likes to exploit his athletic prowess. He is contemptuous in his comparisons of his own doings with those of his companions. Very egotistical. Profane and obscene. Lies unblushingly in securing his own desires. A cruel practical joker. Is wantonly cruel to smaller boys and to his associates. Steals anything he may desire. Shows good intelligence in many directions. Absolute disregard for the rights of others. Greedily reads the newspaper accounts of crime and criminals and boasts of the crimes he would commit against property and persons if he were at large. Is an inciter of mischief. Industrious and capable in all forms of ordinary work under close supervision.

Case VI.—C. X., female.

Age when admitted, 16 years. Was abandoned by parents at an early age. Says mother was intemperate. Patient had an illegitimate child when she was 14 years old. Committed by criminal court to State Industrial School for theft and incorrigibility.

Degenerative stigmata: Very high cheek bones. Deep orbits. Face markedly asymmetrical. Ears asymmetrical, with adherent lobules.

Present age 24. Reads well in 3d reader. Good command of language. Adds and subtracts in hundreds; multiplies numbers of two figures. No division. This patient can do first-class table-waiting and other forms of domestic work when closely supervised. If not supervised does very poor work. Has keen sexual propensities. Forms violent friendships for girls much less intelligent. Chatters and giggles endlessly in a simple way. Very deep and cunning in carrying out her own schemes. Is tyrannical to weaker people. Cruel to animals. Harsh to young children. Very neat in dress and person. Very vain, ungrateful, selfish. Lies unblushingly. Will run the risk of losing some much-desired pleasure for some small gain. Never shows signs of remorse for wrong-doing. Skims through the paper each day for accounts of crimes and murders. Her general behavior is that of a child of 11 or 12.

Case VII.—N. C., female.

Age when admitted, 20. Father intemperate; mother epileptic. As a small child, patient was untidy, played with children younger than herself, was cruel to animals. When 13 years of age was committed to State Industrial School for fornication and assault. Had been incorrigible previously.

Degenerative stigmata: Ears large and gross, with adherent lobules. Astigmatism. Prominent supra-orbital ridges. Deep orbits, prominent xygoma. Face asymmetrical.

Present age 27. Reads well in 4th reader; handwriting legible; adds and subtracts slowly to 20. No multiplication or division. Can tell time by five-minute intervals. Patient is loud and assertive in manner. Always puts herself forward. Has a great opinion of her own ability. Sly and cunning. Fond of dress and jewelry. Domineering and overbearing towards others. Shows no affection towards relatives. Quick tempered and violent at slight provocation. Can do good work but will not stick to it unless closely supervised. Masturbates. Sexually perverted. "Oversexed." Becomes sexually excited when men are around. In the institution environment these propensities are usually kept under control, with occasional outbreaks of temper and sexual disturbance. She unwillingly does under supervision the work of a rather inefficient domestic.

Case VIII.—X. E., male.

Age at admission, 16. Colored. Committed here at instance of criminal court. Has record of having been before the court repeatedly for incorrigibility, destructiveness, stealing of money, etc. Rachitic and undersized.

Degenerative stigmata: Receding forehead. Prominent su-

pra-orbital ridges. Prominent zygoma. Ears small, dissimilar and with indistinct details.

Present age 21. Patient reads well in 4th reader. Enjoys reading magazines, etc. Handwriting is admirable. Adds correctly to 20, but is uncertain in adding numbers above 20. No subtraction, multiplication or division. This patient is a vain, bombastic egotist. Has a great opinion of everything he has or does. Is neat and tidy in dress. Sly and cunning. Lies without hesitation. Steals. He is a trouble-maker and inciter of mischief. Polite and courteous in his manner and use of language. Has learned to do excellent work as a house painter, but if not closely supervised is very careless and slovenly about his work. Will not work continuously without supervision.

Case IX.—S. U., female.

Age when admitted, 17. Father intemperate; has prison record. Patient illegitimate, although father still lives with mother of girl. Neither father nor mother can read or write. At age of 14, patient was committed to State Industrial School for theft and incorrigibility. In court, she testified that the father had committed incest with her, and accused the mother of venally using her for lewd practices. She was placed out from the Industrial School repeatedly, but always with the history of sexual irregularities and theft at each place.

Degenerative stigmata: Has deep orbits; prominent zygoma; ears asymmetrical and poorly proportioned with adherent lobules.

Present age 33. Can read in 3d reader. Reads simple story-books but shows poor understanding of what she reads. Cannot spell. Uses language intelligently. In number work, can add a little under ten; no subtraction or multiplication. Can tell time by five-minute intervals. Patient is childish, selfish, disobedient. Fond of dress but careless about her personal cleanliness. Fond of music and dancing. Sly and cunning. Is an habitual liar and thief. Is inclined to be stubborn and sulky. Can do beautiful laundry work if closely supervised, but if supervision is withdrawn, does very poor work. Chooses younger and less intelligent companions.

Case X.—K. I., male.

Age when admitted, 7 years. No family history. Illegitimate. When admitted could not read nor write. Wet bed. Mischievous and sly.

Degenerative stigmata: Skull asymmetrical. Forehead lined with heavy transverse wrinkles. Face asymmetrical. Ears show adherent lobules.

Was in school continuously from time of admission until 18 years old. Now 32 years old. Is an omnivorous reader.

Reads newspapers, magazines, books and literature of all kinds. Reads scientific reports, agricultural hand-books, etc. Has not a very clear appreciation of what he reads. Expresses himself well. Can add, subtract, and multiply up to 100. Can divide mentally with an easy divisor. Has a vast fund of miscellaneous information. Has a good memory for facts and events, and is especially good at remembering the exact dates of important events at the school in his time. He is an inveterate liar. In an apparently innocent way tells malicious falsehoods which he knows will make trouble. He is boastful and likes to be prominent. He loves to stir up trouble and mischief. Will tell a new patient that he heard the doctor say that the boy's father is dead, etc. He has been detected in perverted sexual actions with other patients. Occasionally runs away and leads a vagrant life for a week or ten days, when he returns to the school of his own accord. He is never in sympathy with the officers who have him in charge. Once attacked an attendant with a knife. Urges other patients to attack officers. Is always sly and cunning in his mischief-making, and always seems prejudiced against the constituted authorities as a matter of general principle.

Case XI.—F. Q., female.

Age when admitted, 16 years. No bad heredity. Unhappy home conditions. Patient always high-tempered, jealous and hard to get on with. Always desirous of attracting attention. Untrustworthy. Lied about everything. An inveterate thief. Stole money and small articles repeatedly. When accused, lied glibly, and when detected in falsehood or theft showed no signs of sorrow or shame. Would repeat theft at next opportunity. Cruel to little children. Was precocious sexually and had no reserve about exposing her person or in her language or behavior with men or boys.

Degenerative stigmata: Face asymmetrical. Ears asymmetrical in shape and size. Adherent lobules.

Age now 17. Reads in 4th reader. Fond of novels, magazines, etc. Handwriting good. Uses language intelligently. Adds and subtracts slowly to 20 only. No multiplication or division. Patient shows about the same characteristics as noted at time of admission. She lies and is deceitful. Fond of dress, boastful and indolent. Will do good work if closely supervised, but if not supervised is very careless.

Case XII.—N. M., female.

Age when admitted, 18 years. Father intemperate. Mother 48 when patient was born. Patient committed from State Industrial School. Had court record of fornication, street-walking and repeated thefts. Had been repeatedly placed out from the In-

dustrial School with the invariable history of promiscuous sexual intercourse, frequent running away, and several arrests for street-walking. Was a chronic thief, often stealing things for which she had no use.

Degenerative stigmata: Prominent supra-orbital ridges. Prominent zygoma. Deep orbits. Prominent chin. Good ears, but with adherent lobules. Face asymmetrical.

Present age 24. Reads easily in 3d reader. Fond of reading and likes magazines and story-books. Uses language easily and well. Can add and subtract in hundreds. No multiplication or division. Patient is childish and easily led. Noisy and boisterous in daily life. Obliging and anxious to please. Marked sexual propensities and unable to control herself when men are around. Masturbates and has perverted sexual relations with other patients. Sly and cunning, but shows little real foresight. Capable of doing good work, but is slovenly and careless unless closely supervised. Was formerly a great inciter of mischief and a trouble-maker, but during the last year has "settled down" and grown much more tractable and industrious.

Case XIII.—T. Q., male.

Age when admitted (October, 1907), 16 years. Parents Russian Jews. No bad heredity. Patient was committed here as an alternative to being sentenced in police court for stealing money from his employer. States that he has stolen money repeatedly in places where he was employed. At time of his commitment here, there was a warrant out for his arrest for rape committed on a young girl. He claims that this rape was committed as the result of a "dare" by some of his associates.

Degenerative stigmata: Skull asymmetrical. Hair grows low on forehead. Eyebrows bushy and meet in center. Heavy supra-orbital ridges. Ears asymmetrical and unevenly placed. Teeth dark, discolored and crowded in jaw. Teeth at irregular angles, cuspids parallel with bicuspid. Face asymmetrical.

Reads fluently in 3d reader. Spells well. Good handwriting. Can add to 20, but cannot subtract, multiply or divide. Can tell time by hours but not by minutes. This patient is frank about his escapades and describes them freely. Says he found it very hard to do school work. Rather stupid and heavy but with fair understanding of ordinary affairs. Memory as to times and places very uncertain. Apparently an uncomplicated case of imbecility.

Case XIV.—N. E., male.

Age when admitted, 18 years. Mother feeble-minded. Father unknown. Boy illegitimate. Was committed to the school as an alternative to being sentenced for rape committed on a young

girl. This was the third time this boy had committed rape. Had repeatedly stolen money and other articles, and had committed assaults on boys who bothered him.

Degenerative stigmata: Hair low on forehead. Heavy supra-orbital ridges. Eyebrows bushy and meet in center. Deep orbits. Ears asymmetrical and badly made. High-arched palate. Face asymmetrical.

Present age 21. Patient had been in public school continuously up to time of his admission here, but is able to read only simple books like the primer. Cannot spell simple words; can write a little; knows nothing of number. Cannot tell time. In using language is able to express himself well. Has a large fund of general information. This patient is extremely talkative very pompous in manner and language. Vain of his personal appearance. Neat in dress and person. Is a persistent and senseless liar. Is rebellious and contrary with new attendants. Has attacked several attendants without provocation. On general principles is opposed to those in power. Masturbates, but is not a sexual pervert.

Case XV.—N. T., female.

Age at admission, 16 years. Father moral pervert in every sense. Mother confesses to having lived with many different men. Brother of patient has a history of incorrigibility and multiple court record. Patient had fits of temper as a child. Learned to talk late. Wet bed. Stubborn, wilful, passionate, and "could not tell right from wrong." Liked to play with younger children. Cruel to other children. Immediate occasion for commitment was result of being brought into court for incest with father. While patient was with mother on vacation two years ago, she became pregnant and gave birth to a child.

Degenerative stigmata: Large supra-orbital ridges. Receding chin. Receding forehead. Prominent zygoma. Palate very high and narrow. Ears asymmetrical.

Present age 21. Reads easily in 3d reader. Writes good hand. Can add in hundreds; subtract slowly under ten; no multiplication. Can tell time. Expresses herself fluently and intelligently. Patient is indolent, cunning; has no sense of shame. Quarrelsome. Exceedingly crafty in gaining her own ends. Has attacked other patients and attendants with knife without provocation. Had no love for her baby and manifested no real grief when it died. Becomes sexually excited when men are around.

Case XVI.—O. L., female.

Age when admitted, 14 years. Father and mother both intemperate and degenerate, and always on the verge of pauperism. Patient admitted here from Tewksbury almhouse, with history of

incurrigibility. Cruel to animals, etc. Had put a cat on a red-hot stove. Had thrown knives and stones at playmates. Said she would like to have a small baby to strike and kick. Very untruthful and chronic thief.

Degenerative stigmata: Eyebrows bushy. Zygoma prominent. Face asymmetrical. Nose small and rudimentary. Ears badly shaped, with adherent lobules. High palate. Teeth crowded, and placed on different planes. Low forehead. Body small and undersized.

Present age 16. Reads in 4th reader. Uses language easily. Can add a little under 5. Can tell time. This patient is sly and cunning. Vain and boastful. Fond of teasing. Has fits of temper when she screams, tears clothing and pulls out her hair. Likes to attract attention and is very vain of her personal appearance. Is in a state of chronic rebellion against the constituted authorities, a trouble-maker and inciter of mischief. About two years ago this patient, with another patient, drowned a fellow patient in a bath tub.

Case XVII.—K. 1., male.

Age when admitted, 17. Irish-American. Family history unknown. Patient walked at 18 months, did not talk until 7, could not learn in school. Had convulsions in first year. Began use of tobacco at age of 8. Referred to the school from the criminal court where he was held on a charge of rape committed on a young girl. Had worked for several years in a factory where he carried goods from one part of the factory to another.

Degenerative stigmata. Very prominent supra-orbital ridges. Face asymmetrical. High palate. Ears prominent and outstanding.

Present age 18 years. Reads easily in 4th reader. Poor speller. Adds to 10, but cannot subtract. Typical imbecile of medium grade. Happy-go-lucky fellow. High tempered. Works well under supervision; idle otherwise.

Case XVIII.—Q. K., male.

Age when admitted, 9. No family history. Peculiar from early infancy. Has always been nervous.

Degenerative stigmata: Face asymmetrical. Eyeballs protruding. Eyes widely spaced. Deep orbits.

Present age 11 years. Beginning to read easy sentences in primer. Cannot spell, except 3-letter words. Can add to 5 fairly well. Cannot tell time. Patient very troublesome and incorrigible. Has a bright, knowing and intelligent manner. Has a fund of general information, and seems brighter than he really is. Talkative. Has used tobacco since an early age. Very cruel to smaller children. Has ungovernable temper. Is a malicious



liar. A very successful inciter of discontent and rebellion among the other patients. Is most ingenious and convincing in his falsehoods. Inveterate thief. No appreciable motive for his bad behavior.

Case XIX.—J. E., male.

Age when admitted, 13 years. Parents of Irish descent. Father not very strong mentally. Patient eighth child in a family of 14. Seven children have died, 3 still-born, 1 hydrocephalic. Patient committed to the school after being before the local court repeatedly for incorrigibility, theft, destruction of property, etc.

Degenerative stigmata: Skull of microcephalic type and asymmetrical. Ears dissimilar. Nasal septum deviated. Palate high-arched.

Present age 15 years. Reads well in 2d reader. Spells simple words. Can add to 15 slowly and rather uncertainly. Cannot subtract or multiply. This patient is one of the most incorrigible boys I have ever known. He lies persistently, purposelessly and maliciously. He is a great thief. Very impatient of control. Wantonly destructive. Cruel to other children. Vain, conceited, quick-tempered, insolent. Very fond of tobacco which he has used since he was 8 years old. Absence of motive characterizes many of his actions. Works well under supervision.

In every case with a court record, and in the cases from the reform schools, the offense for which the patient was originally committed was not a first offence, but was the climax of a long series of petty misdeeds which finally became unbearable. Probably all this group were committed by the police courts without question as to their mental condition. In several cases it was only after the patient had been "placed out" to service several times, from the reform school, and had repeatedly failed to respond favorably to good environment that it was realized that mental defect was the underlying cause of the delinquency.

A large proportion of the cases described well represents the class of cases who formerly would have been considered merely as criminals, with no thought of mental defect.

By reason of early incorrigibility or bad home surroundings many of these cases had few school advantages in childhood. In court their mental deficiency was probably mistaken for ignorance from bad inheritance or lack of opportunity.

Nearly every case shows either no family history obtain-

able—which in the case of a child usually means a dubious heredity—or a positive history of bad inheritance.

Nearly every case presents various physical stigmata of degeneracy in skull, ears, face, teeth, palate or physiognomy. All of the cases described are in the period of adolescence or early adult life, and yet only a few present the usual comeliness of feature and physical attractiveness usually shown at this period of life.

All of these patients boast of their evil acts and eagerly discuss the criminal experiences of a new-comer. They gloat over newspaper stories of crime and shame. They delight in "yellow journalism." They reveled in the exploits of Tracy the desperado and of Thaw the assassin.

Of the cases described, none seem able to apply themselves continuously in any one direction, even for a greatly desired reward. Even the brightest were unable to master more than the merest rudiments of arithmetic.

The patients described vary greatly in general intelligence, and in the amount of definite knowledge which they have acquired, but they greatly resemble each other in their childish tastes, excessive vanity, unreliability, aggressive boastful egotism, selfishness, moral insensibility, fondness for malicious mischief and trouble-making; indolence, willingness to run great risk for the sake of some small gain, untruthfulness, lack of shame and remorse, lack of sympathy, etc.

The cases described fairly represent the criminal imbecile type. I have no doubt as to the actual imbecility and the resulting moral irresponsibility of every one of these cases. As a group, the female cases especially well illustrate the so-called "high-grade imbecile." In fact, the physical and psychical stigmata exhibited by the group of imbeciles, selected because of their criminal tendencies and acts, are merely the usual signs and symptoms found in the ordinary case of imbecility, modified only in degree and not in kind.

This class of borderline cases with criminal tendencies now constitutes a troublesome and puzzling factor in our institutions for the feeble-minded. They are often malicious, deceitful and

inciters of mischief and insubordination. They have a wonderful power of suggestion over their simple-minded fellow-patients. They are generally committed to the institution against the wishes of their parents. The efforts of their friends to obtain their release are constant and perplexing. If a case of this description is taken before the Supreme Court on a writ of habeas corpus it is more than likely that the patient will be released. Indeed, it is not difficult to find reputable medical men who would testify that the case "is by no means a fool," and that he ought not to be deprived of his liberty. It is evident that clinical types and shadings of mental deficiency have become familiar to the alienist which have not been so definitely formulated and classified as to be readily recognized by the profession generally. It is equally true that the legal definitions and precedents pertaining to ordinary cases of imbecility are inadequate when applied to these high-grade imbeciles. We have, therefore, to face the anomalous fact that it is easy to have a class of patients committed to our institutions who are promptly discharged by the higher courts because these lesser types of deficiency have neither been adequately formulated medically nor recognized legally.

The diagnosis of borderline cases of imbecility is simplified if it is possible to obtain the family history and the personal history of the patient, with special reference to the period of infancy and early childhood. Even in the cases with very slight mental defect there is usually a history of delayed dentition, late walking, delayed speech, relatively long continuance of untidy habits, and very likely a history of convulsions as part of the history of the first few years of life.

The public school history of the patient is almost always illuminating. As a rule these cases do not compare at all favorably in their school work with the average child. It is seldom these cases are carried beyond the standard of third-grade work. Difficulty in understanding simple arithmetical abstractions is very significant. The presence or absence of various degenerative stigmata is significant.

Selfishness, moral insensibility, willingness to run great risks for slight possible gain, childish tastes, lack of affection for

relatives—all these are significant symptoms. A very constant symptom is inability on the part of the patient to apply himself continuously either in school work or in any other occupation without constant supervision. In some cases with only slight intellectual defect, the inability to "make good" socially will be a deciding factor in the diagnosis. In a given case the age, sex, social condition, physical health, school advantages, etc., have a distinct bearing on the interpretation of the case.

Some of the cases reported were considered as typical cases of so-called "moral imbecility" without intellectual defect, until long observation and close analysis demonstrated that they were cases of true imbecility, where the anti-social tendencies of the ordinary imbecile were exaggerated to such an extent as to overshadow the presence of intellectual impairment, and the existence of the characteristic physical, mental and moral signs of congenital mental defect.

I have never happened to see a well-marked case of so-called "congenital moral imbecility" which did not exhibit many, or indeed most, of the significant stigmata of true imbecility.

With the moral imbecile the stock of showy and superficial knowledge, the confident and boastful manner, the glibness of tongue, the spurious brightness, the cunning and carefully planned schemes—all these serve to mask the significance of the supreme selfishness, the lack of shame and remorse, the unbounded egotism, the absence of adequate motive, the cruelty, the lack of fear of consequences, the lack of judgment, the love of notoriety, the failure to keep a situation, the failure to respect the feelings of relatives, the abnormal social reactions, the idleness and tendency to early vice, which are so apt to characterize this type of defective.

Kraepelin admirably describes the modern conception of "moral imbecility" as follows:

Moral imbecility represents a form of mental weakness which includes chiefly the realm of the feelings. It is characterized by the absence or weakness of those feelings which inhibit the development of marked selfishness. The intellect, as regards matters of practical life, is moderately developed; patients apprehend well; they are able to accumulate more or less knowl-

edge, which they use more or less for their own advantage; possess a good memory and show no defects in the process of thought. They do, however, lack the ability to obtain general viewpoints, to perform any work of a high grade, and to form an adequate conception of life in the outer world.

Morally, their lack of sympathy is manifested from youth up in their cruelty towards animals, their tendency to tease and roughly use playmates, and an inaccessibility to moral influences. They develop the most pronounced selfishness, lack of sense of honor and of affection for parents and relatives. It is impossible to train them because of the absence of love and ambition. They tell falsehoods, become crafty, deceitful and stubborn. The egotism becomes more and more evident in their great conceit, bragging and wilfulness, their inordinate desire for enjoyment, their violence and dissipation.

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They are incapable of resisting temptation and give way to sudden impulses and emotional outbursts, while the susceptibility to alcohol is especially prominent.

So-called "moral imbeciles" frequently commit the most heinous and revolting crimes. The boy Pomeroy was a high-grade imbecile who had been accepted for admission to the Massachusetts School for the Feeble-Minded when he committed his notorious crimes.

Every imbecile, especially the high-grade imbecile, is a potential criminal, needing only the proper environment and opportunity for the development and expression of his criminal tendencies. The unrecognized imbecile is a most dangerous element in the community. The fact that the high-grade imbecile often excels in one or more lines—music, painting, some limited branch of mechanics—is misleading. Maliciously mischievous children, runaways and vagrants, the incorrigibles, disorderly and ungovernable children, are often of the imbecile type. Lighter grades of imbecility often fail of recognition in early childhood, but as soon as some unusual situation arises demanding discretion and decision of action, and self-control, the mental, moral and social incapacity becomes evident. The mental incapacity becomes more evident in youth and adolescence as contrasted with the rapid mental development of their playmates.

The juvenile expression of this slight degree of imbecility,

especially in children watched and guarded in good homes, is trivial and harmless. The reaction of these patients to the temptations of adolescent and adult life is another matter.

The life history of the case put under permanent protection and training at an early age is very different from that of the cases which grow up at large in a modern urban or town community. Nearly all of the cases trained from childhood or youth may be taught habits of industry and comparatively good behavior, and at from 25 to 30 years of age a large proportion of them "settle down" to a condition of inhibition of the anti-social traits, and indeed to a condition of ostentatious pride in the virtues which they unwillingly practice.

Constant occupation at congenial work, with strict but kindly discipline, and with proper recreation, is the basis of the treatment required.

Butler of Indiana says:

In the country and local jails we have frequent cause to note the relationship between feeble-mindedness and crime. Boys and young men mentally weak are often found being held for trial or serving a jail sentence for rape, or attempted rape, incendiarism, or other crime.

Many of the children whose cases are brought before the juvenile courts are mentally weak or come from homes where, because of the weak wills of the parents, they were not given proper training or direction.

The last resort of the juvenile courts is the State Reform Schools. In these institutions are many children of this class of mental defectives.

Mental defectives are frequently committed to the reformatories for adults. From studies made at the New York State Reformatory it is stated that this class constitutes about one-fifth of the population of that institution. A far larger proportion is reported as being incapable of controlling their powers or co-ordinating their faculties, and are termed 'control defectives.' The superintendent of the schools at the Indiana Reformatory states that about 21 per cent. of those received are mentally defective on admission.

In the state prisons are also to be found those who are feeble-minded. Some of these were nuisances in their respective communities; some were sent here because there appeared to be no other place to send them, others for the commission of offences for which they were not really responsible.

In both reformatories and prisons these defectives are the most troublesome class of prisoners. Irrational, irritable, their weak minds led by their impulses, they interfere with discipline and their management requires the highest skill. Their presence at times leads to disturbances and sometimes to serious, if not fatal assaults upon officers and inmates.

The literature of criminology teems with references to the close analogy between the imbecile and the instinctive criminal. They have a common heredity, and criminal anthropology proves that the evidences of degeneration—*anatomical, physiological and psychical*—are identical in the two groups.

Is there not more than a close resemblance between the imbecile and the instinctive criminal? Is not the typical instinctive criminal of Lombroso a typical adult imbecile of middle or high grade, plus opportunity and experience in the community?

We have only begun to study the relationship between imbecility and crime. The criminal tendencies of the epileptic are fairly well-known. The insane criminal is being studied from many points of view. There are many crimes committed by imbeciles for every one committed by an insane person. The average prison population includes more imbeciles than lunatics.

We shall eventually apply our knowledge of imbecility to the study and management of juvenile incorrigibles and adult criminals. The ultimate application of that knowledge will materially modify the action of the courts and the methods of treatment and management of prisoners.

Cases of imbecility with criminal propensities—"criminals who have committed no crime"—will be recognized at an early age before they have acquired facility in crime, and permanently taken out of the community and given life-long care and supervision in special institutions, combining the educational and developmental methods of a school for the feeble-minded with the industry and security of a modern penal institution. Such provision would be only a rational extension of the principle of indeterminate sentence, and if safe-guarded by careful and repeated expert examination and observation could do no injustice and would greatly diminish crime in the immediate future. Adult criminal imbeciles, or instinctive criminals, would be com-

mitted to an institution under the same conditions. Similar cases developing in institutions for ordinary imbeciles would be permanently transferred to the special institution.

## DISCUSSION

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Dr. Smith Baker: With reference to caring for cases at the earlier stage I wish to quote a case briefly: A boy five years old was brought to me with the complaint that he could not learn to read, and that in consequence he was becoming a truant, was rapidly learning the little vices of childhood, and was becoming a nuisance in the school and in the neighborhood. Under the care of an older sister, whom I endeavored properly to instruct, within only about three years the boy learned to read as rapidly and as much as any boy of his age, had gotten off of the street, and had become a respectable boy, and is to-day a respectable man. The family had unwittingly provided him with all the tendencies necessary to make a vicious criminal of him later on. The defect in reading had thrown him into such a miserable sort of contact with the rest of the school and the community, that he was naturally urged on in all such vicious directions, very rapidly. Getting him interested in the right kind of studies under the right kind of direction, in the right kind of environment, resulted in what I have told you—a respectable boy, a respectable young man.

Dr. Murdoch: The point that appeals to me in the presentation of these cases is that they were almost without exception cases that entered the institution when they were past 14 or 16 years of age, some of them, I believe, 18 or 19 years. Most of them had come in contact with a vicious environment before coming into the institution. I would like to know if any of the institution children of this class have been under institution training from very early years. I believe if we can have the imbecile under training in proper institutions during early years that these vicious tendencies will not develop. I think it is largely



a question of environment and the lack of appropriate training. In my experience in our own institution, I know, while we are not old, that has been our observation, that these children who have come to us early have not developed these vicious tendencies in the institution, but we do see it in those children who have come to us too late, after they have been exposed to street life and evil association in the outside world. This is not only so of the imbecile, but I believe it is true of normal boys and girls; if they are protected from evils during early years the liability of generating or acquiring evil habits, alcoholism, etc., is not likely to occur.

Dr. Wilmarth: The point that appeals most to me is the absence of true remorse. A girl released from the industrial school in Milwaukee murdered her illegitimate infant. The murder was discovered and she was brought before the justice, and the thing that strongly attracted his attention was her entire lack of remorse over her crime and her inability to appreciate its gravity. It strikes me that the lack of remorse signifies a lack of knowledge or appreciation of the gravity of the offence, and that lack indicates surely a lack of judgment. The lack of judgment, or the lack of will power, which is prominent in these cases certainly indicates the lack of a true mental formation or growth, and, therefore, indicates, in itself, an imbecility or feeble-mindedness. It does not seem to me that the term "moral imbecility" is misplaced, if used in that connection.

Dr. Goddard: I have been through the literature on moral imbecility, and I feel like saying that, in my opinion, the papers we have heard this afternoon on that subject are the first real contribution we have had to the understanding of moral imbecility. There is no place in modern sociology or modern ethics for moral imbecility as it is found in the older writings on that subject. The notion that a child may be born with his natural faculties all right and his moral faculties all wrong is a notion that belongs to the middle ages of sociology and ethics as well. I think this marks the beginning of a new era in which we can get down to the point and study the imbecile, and find out, if you please, why, in imbeciles, some tendencies predominate

over others. It would be foolish to anticipate the results of those studies, and yet, sometimes we must have certain impressions which will lead us in the right direction, and I have the impression that the moral imbecile, so called, is the best answer to the argument that we heard last evening, that this whole thing is a mere matter of heredity, and if we stop that, the problem is solved. I believe the imbecility may be hereditary, but the moral part is a question of environment, and it is the child's revolt, or nature's revolt and reaction against a crude and ridiculous educational and training system for that kind of a child. As I said before, these three papers especially appeal to me as a tremendous contribution to this little understood subject.

Prof. Johnstone: I do not know that I can add anything to this discussion, but it seems to me there has been one word that has cried out all through this day, and that word is "ignorance." It seems to me this whole question is in our hands, it lies in the hollow of the hands of this association, and I think it is time for us to let people know. I think we ought to take some definite action to let people understand more of our work and its relationship to ordinary life.



## MORAL DEGENERACY

BY HORTENSE V. BRUCE, HUDSON, N. Y.

One who has the care of moral delinquents, who has to consider the causes of their delinquency, the methods of treatment and of re-establishing them in the world, must, perforce, make a study of "moral imbeciles." Frequent evidence of this fact will be found in annual reports of institutions for delinquents, and in papers discussing delinquency and criminality.

Among the girls committed to the New York State Training School for Girls since 1904, from among whom the cases to be reported in this paper are entirely taken, there have been about forty girls whom we have considered mentally deficient. Of these some have plainly been incapable, intellectually, of being materially benefited by the discipline and training of the school and some have had intellectual capacity but have lacked to a greater or less degree, moral sense. The disposition of these cases when they must be freed from an institution, is a more serious problem than the placing of a normal girl. Our difficulty lies not only in diagnosis but in the ignorance and lack of sympathy on the part of the public concerning these unfortunates. The fact that so many deficient in mental capacity are committed to us shows how largely still the offense classifies the offender in the public mind. If the girl, evidently lacking intellectually, is designated a delinquent because she commits an act which is an offense under the law, how much less is understood the case of the girl who has intellectual capacity but acts contrary to law because unmoral. To a surprising extent this lack of appreciation of the real status of the moral responsibility of certain girls exists even among people dealing with sociological problems. though we feel that it requires special training and extended observation correctly to interpret these cases, yet if it were more generally understood that there is moral as well as mental imbecility, the unfortunate would be properly placed before she had done harm to herself and the community.

We, the physicians connected with the training school and myself, do not conclude that all girls whom we cannot help to become good citizens are mentally deficient, but in the histories to be presented we think we have found the characteristics that differentiate the girls who do not appreciate good and evil and do wrong, from those who do appreciate good and evil and choose to do wrong. We approach the study of a new case with the optimistic theory that no normal person is incorrigible. In time, each girl gets classified either among those readily susceptible to good influences or amongst those who are not. If among the latter, further differentiation is made; of one class we feel sure that they understand and feel the proper emotions about right and wrong; of the other, we, to quote Dr. Barr, "get an impression of something different from the ordinary." We are baffled; there is a gulf we cannot cross; the words right and wrong are to the girl mere labels we have put upon certain lines of conduct, the reason for which she has no brain power to understand, and which, therefore, are of no compelling force when she has to make a choice between the two. As with their conduct so with their thoughts and the verbal expression of them. Girls who have indulged in a perfect revelry of obscenity have impressed us as having had no such comprehension as had we of the vileness of the words they were using. The impression was distinctly different from that we get of disorderly girls who attempted to join them in their songs and conversation.

From different authorities, chiefly Doctors Kerlin and Barr, I have taken the following quotations and list of characteristics of which we have made use in confirming our diagnosis. These are: "In the moral imbecile the degeneration of the psychic forces is the peculiar and distinctive feature, the perversion or the complete absence of the moral sense being revealed according to the character of the grade in which it appears." Again, "The fundamental disorder is manifested in derangement of the normal preceptions or emotional nature rather than in the intellectual life." And again, "Psychic forces are wanting, feeble, or lacking in quality, just as we have noted are the physical powers in the idiot. Judgment and will, power of discrimination, and

even a certain amount of discretion there may be; but even when strengthened and built up, at the best these are only such as a well grown boy or girl will exhibit; vacillation, indolence, or an acute susceptibility to suggestion, may be at any time his undoing, for unstable as water, he will not excel unless sustained and protected by a will stronger than his own." "Some of the forms in which the congenital deficiency of the moral sense manifests itself are: unaccountable and unwarrantable frenzies; long periods of sulks and comfort in sulking; motiveless and persistent lying; thieving, generally without acquisitiveness; a blind and headlong impulse toward arson; delight in cruelty; self-inflicted violence, even to drawing of blood; habitual wilfulness and defiance, even in face of certain punishment; hebetude or insensibility under disciplinary inflictions." As a further aid to diagnosis from simple wickedness or badness, there are mentioned: "Persistence of the trait and the utter destitution of any reason for it;" "the confessed helplessness of the child to do differently;" "the fact that in one class of these cases the conduct is the reverse of what might be expected from the environment in which the child has developed;" "the ancestral or prenatal history of the child is such as to project a strong light for the interpretation of this condition as that of a neurotic inheritance."

The cases which I now present not only have been in court and committed as delinquents, but I fear would again be so committed were they again brought into court. Three were tried on parole from the institution. Without this trial we should not have classified them as moral imbeciles. The characteristics of the other three were such that we could not ask any family to take them into a home.

Case 1—E. P., aged fourteen years when admitted to the training school in January, 1905. Not noticeably peculiar in appearance. Gait awkward; expression commonly downcast and rather blank; bites finger nails. Only stigmata a high arched palate and some flecks in iris. Has some mental capacity but her general instability affected also her school work. Able to do housework under supervision. Does beautiful darning and takes pleasure in it. The personal habits of this girl are exceed-

ingly filthy and in this respect there was little or no improvement during her stay in the school. She is exceedingly obstinate, inclined to be lazy and her interest in any sort of work is fitful. Has a sullen disposition, is often impertinent, profane or obscene in talk. Her fits of temper are easily provoked and when angry she has torn her clothes and broken windows. She has gleams of good impulses but they are transitory and she seems to be entirely unstable, without any real desire or ambition to do better. Family stock poor. She is said to belong to the notorious "Pool tribe," well known in the southern part of the state and in northern Pennsylvania. In this case there appear the unreasonable fits of anger; the long periods of sulks; the habitual wilfulness and defiance in face of certain punishment; the persistency of the traits, and the ancestral history as affording interpretation of the condition.

Case 2—P. S., aged fifteen years on admission to the training school in January, 1905. Brunette, rather good looking, no physical marks of degeneration; manner, good-natured and indolent. Forgetfulness and instability of attention made her school work discouraging for herself and for her teachers. Though between eighteen and nineteen years of age when she left the training school, she was still struggling with the multiplication table. In industrial work her leading characteristics were lack of concentration and almost total irresponsibility: e. g., her cottage work required constant supervision and in such routine work as the daily making of bread she was apt to leave out the yeast unless some one were by to remind her. She was untruthful. When tried on parole she displayed in several instances a perfect passion for the society of men and young boys, making improper and unwarranted advances and talking in a vulgar way. She seemed to be quite irresponsible in this respect saying with apparent honesty that she didn't know why she had acted thus shamelessly. Since her discharge from the training school and release from the regularity of its life and discipline, she has deteriorated, her work being done in a still more slovenly way than when she was in the school and her tendency to purposeless lying has been accentuated. The ancestral his-

tory shows degeneration of originally good stock. Father intemperate; has an imbecile uncle on father's side. In this case the determining characteristics are motiveless lying, limited mental capacity, lack of judgment and will power, confessed helplessness to do differently. The ancestral history gives some reasons for the condition.

The third and fourth cases are sisters, colored; Jamaican ancestry; mother insane; father a criminal. Both brought up in an orphan asylum; both indentured and returned to asylum because of unsatisfactory conduct. The older one, case 3, aged fifteen when admitted to the training school, February, 1905, has no physical stigmata of degeneration. She had peculiar mannerisms and often a rather startled look suggesting a wild thing that had not known civilization and resented restraint, an impression at times furthered by a peculiar animal cry which she gave when discipline was necessary. Those familiar with her came to recognize a peculiar expression of her eyes which preceded an outbreak. Possessed of attractive traits; a natural leader; capable of strong affection; having mental capacity; fond of reading but not of study; very active and liking work excepting when in one of her bad moods; particularly fond of outdoor work; never amenable to discipline; a creature of impulses; violent at times; noisy and destructive; for prolonged periods and after days filled with outdoor work which she liked, she would spend hours in obscene talk and in singing vile songs; she would pound the walls and floors with hands and feet, continuing the noise and talk nearly all night; she was not dangerous for she did not bear malice though she might have inflicted an injury accidentally; indifferent alike to punishment and reward; latterly she was less violent but never more obedient to the general rules of the institution. The conclusion, reached gradually following modification after modification of plans to reach and hold this girl, was that she was a moral imbecile. In no other way could we explain the unaccountable and unreasonable frenzies; the habitual wilfulness and defiance in face of certain punishment; the insensibility under disciplinary inflictions; the persistency of the traits; the lack of reason for them. She

was in the training school until May, 1907, when she was admitted to the State Custodial Asylum at Newark.

The younger sister, case 4, aged fourteen when admitted to the training school in October, 1905, was in form and face noticeably unattractive but having no stigmata of degeneration; expression, habitually ill-natured; figure, short and thickset; a masturbator; intellectually capable; liked to read and to study but too insubordinate to be kept in school; possessed of tireless but wilful activity; irresponsible about work. She was more unreasonable and more violent than her sister; would have inflicted injury; most of the time was as disagreeable, irritating, disgusting, obscene and destructive as she knew how to be; she was daring, having no fear of punishment and no regard for reward; at no time during her stay in the training school could she be said to have shown a desire to do well, rather, she was actively in revolt. Our diagnosis was based upon her unaccountable and uncontrollable frenzies; her willingness to inflict injury; her habitual wilfulness and defiance in face of certain punishment; her insensibility under disciplinary infliction; the persistence of the traits without reason for them; the condition having interpretation from the ancestral history. In November, 1906, she was returned by the training school to the county from which she came because "mentally incapable of being materially benefited by the discipline and training of the school," and by the county authorities committed to an institution for the feeble-minded. This institution returned her to the court as an improper subject, not agreeing, I understand, with our diagnosis. The last informaton I have of the girl is that she is in a Catholic institution and is docile. I do not know whether or not they think she could do well if free.

Case 5—M. C., aged fourteen years on admission to the training school in November, 1904. White, no physical stigmata, attractive in looks and manners; low, pleasant voice; expresses herself well in conversation. As a child, learned readily but forgot quickly. At one time could spell well and later became a poor speller. During the time she has been in the training school she has shown aptness and pleasure in school work; she is



bright mentally and has some gift of expression in writing; is very capable in all kinds of housework and in sewing. She was adopted at the age of five into the ordinarily comfortable American home where particular attention was constantly given to her moral and religious instruction. In her sixth or seventh year she developed extremely filthy habits having to be watched like an infant to be kept clean personally. She was always untruthful but so plausible, so seemingly honest that it was very difficult not to believe her. She had no pride either as to personal appearance or in choice of companions; she would ruin a new garment on first wearing and laugh at its condition; she would choose the low, the most common, for her friends. At one time, as a child, she was most attracted by a colored girl. She stole money once or twice after she was old enough to know what she was doing. She was indifferent to her home, destroying furniture and furnishings in her romping. She loitered on her way from school and it could not be learned where she went. Finally she wrote indecent notes to the boys in the school she attended and claimed she had had sexual intercourse with a young boy. This he always denied. Having once exposed her thoughts to her foster mother she seemed shameless about her knowledge of sexual matters. At home she was utterly lazy and irresponsible. She was committed to the training school and there seemed to lose all these bad traits except untruthfulness and in this respect she improved greatly. In time it seemed proper to try her out of the school on parole. Within two weeks she had written tales of the home which later proved to have no foundation and which made us promptly transfer her to another home with which we were better acquainted. Here her stay was to be temporary and she was not treated as a servant, her youth, attractive appearance and manner making the woman feel that during her short stay she could treat her more as a daughter. The girl displayed all of her early characteristics; made the acquaintance of a low stable boy; went driving with him nights; visited with him at the house of a colored washwoman for whom she stole an expensive linen gown from the woman with whom she lived; told outrageous lies about nearly everything she spoke

of and finally ran away when she found the time had come for her to be taken to a new home. She was found in the house of an entire stranger and in a few minutes after her capture was laughing and talking as freely as ever with our parole agent. On my questioning her for reasons for her conduct by which she was cutting herself off from all opportunities, she was hard and sullen but finally she said she did not know why she acted as she did; sometimes she wondered if she were crazy. At this time, particularly, she impressed me with her lack of appreciation of the situation. She seems now to be more serious than she was formerly but the life in the school has never been irksome as one would expect for a girl who came from such a home as she had. There is a strain in the family stock that is abnormal. Her paternal grandmother died insane. There are several divorces, and relatives of doubtful repute on her father's side. There are wayward cousins. The father is said to impress one as "lacking in judgment." The diagnosis is based upon the motiveless and persistent lying, more marked than in any other case with which we had experience; the lack of judgment and power of discrimination; conduct the reverse of what might be expected from the environment in which the girl developed; her confessed helplessness to do differently. The ancestral history helps to explain the condition.

Case 6—N. K., aged fifteen years when admitted to the training school in February, 1905. Personal appearance attractive; manner bright and pleasing; expresses herself well; no physical stigmata; of average intellectual ability; as a child quick to learn. She has special aptitude for sewing and cooking; adopted when three years of age; claims her foster father was kind but his wife cruel and unjust and the child ran away four times. When angered by something her foster mother said she put rat poison (arsenic) into some food intended for the mother. This was repeated frequently during the following six months, when the procedure was discovered and the girl sent to the State Industrial School. She remained there nine months when she returned to her foster parents, going to work in a tobacco factory; got into bad company and her foster parents notified a

policeman to watch her on the streets at night; angered at this she returned home early in the morning, broke into the house and took jewelry, money and clothes with which she ran away; was overtaken, arrested and committed to the training school. She planned at least three escapes from Hudson, succeeding twice in getting away, both times stealing clothing and material which she cleverly made up into clothing. On several different occasions she has planned to set fire to the building in which she lived but was betrayed by the girls whom she tried to induce to assist her. In November, 1907, she was paroled to a woman who had become much interested in her and who was anxious to give her a chance to make something of herself. As she is clever about sewing and likes it, a place with a good dressmaker was found but during the first two weeks she stole from her about \$20. It was also found that she had stolen from the woman to whom she had been paroled. She also got possession of some jewelry in a way she would not explain. She told lies to this woman and to strangers and hinted with pride at having been immoral. While she had unusual advantages in this home she never showed any gratitude or appreciation for the many kindnesses shown her. After her return to the training school which her conduct on parole necessitated, she was told of the death of her foster father and that she was considered indirectly responsible for it. She showed no grief or regret for her act and this lack of feeling has always characterized her so far as we can determine. She indulged herself after her return in purposeless annoyances such as putting vinegar in the milk saved for the officers' table. Her father was very intemperate and served a sentence in prison for attempted murder. In this case the characteristics that led us to conclude that the girl lacked moral sense were the motiveless lying, the thieving, the impulse toward arson, the conduct different from what might be expected from her environment, the indifference, ingratitude, lack of normal emotions, stupidity in the planning and execution of her misdemeanors. The ancestral history shows poor stock. We were not really hopeful about this girl at any time but before parole I should have classed her as one of the wilfully "bad" girls.

## SUGGESTIONS FOR A PROGNOSTICAL CLASSIFICATION OF MENTAL DEFECTIVES

BY HENRY H. GODDARD, M. D., VINELAND, N. J.

In coming to the question of classification, I should rather open a discussion than anything else. I have nothing final on the subject. I was early impressed with the fact that we are not all using the same classification. This results in much confusion. Roughly, we in the East, I think, say feeble-minded, imbeciles, and idiots. You in the West have only imbeciles and idiots.

Being agreed that a uniform classification is needed, the next question is, What shall it be? We have our medical classification such as microcephalic, hydrocephalic, Mongolian, etc. What is the basis of classification here? Are we sure that there may not be a microcephalic Mongolian or a hydrocephalic Mongolian?

Again, what is the value of this classification? How closely can we classify? Take, for instance, the microcephalic. How small must a head be before it is microcephalic? It is a convenient way to shelve these cases, perhaps, but does it help us in our dealing with them? Is a microcephalic defective limited definitely in his powers? So far as my limited experience goes he is anything from a profound idiot to a high-grade imbecile so that we may have two-thirds of our entire range of defectives covered by this term. The other terms have the same difficulty. Suppose we turn to Barr's classification based on "trainability," another valuable method but of no use until we have had the child in the institution long enough to find out how trainable he is. Also we must assume that the training we have attempted to give is the best possible. The child has had a fair chance and if he prove to be untrainable he is therefore an idiot; if he prove to be moderately trainable, he is an imbecile; if he

prove to be highly trainable, he is feeble-minded. Here again it is of no value in itself unless we have had the child long enough to get well acquainted with him. But most serious is the fact that while we are getting acquainted with him the years in which he ought to be trained are passing. So it seems that we have great need for some sort of classification which will tell us at the outset very closely where this child is in mental development and what we may expect from him and what methods of treatment shall be applied. The ideal would be that in one-half hour we could get any case so settled that we should know accurately what to expect from him in the years to come and that we should know just what treatment to give him so that we should waste neither his time nor our energies in training. Whether we ever attain such a thing is a question. Whether we may not approximate it seems not so discouraging a question. We may illustrate by considering the classification of a library. We could classify the books by colored bindings. We could base our classification on the size of the volumes if we liked. That seems very much like the size-of-the-head plan. We could arrange them according to the language in which they were written, as we sometimes do, or we could arrange them according to authors. According to this last, if we know the author we know what to expect. If So-and-so wrote this book you can depend upon its being good. If someone else wrote it you need read nothing but the title. So in this work we need titles—types—so that when we say a child is in such a class, that tells us the general facts about him.

I have a feeling that a motor control—how the child handles its muscles—may be ultimately a stronger basis of classification than the mental process,—the more purely psychological. Mind is a very evanescent thing; it is no longer considered an entity; it is the sum of processes and experiences and consequently very difficult to measure. Movements, which are the expression of mind, we certainly can and do measure.

By way of illustration I will call your attention to a study we have made, and a word with regard to the history of it may interest you. Our plan of investigation included anthropometry.

but for lack of time I was able to take only the following measurements:

- 1—Standing height
- 2—Sitting height
- 3—Weight
- 4—Grasp of right hand
- 5—Grasp of left hand
- 6—Lung capacity

Having taken these measurements of a number of children we compared them with normal children by means of Smedley's percentile gradings of normal children in Chicago. We were at once struck with the fact that our children were always lower than the normals and especially was this true in grip and lung capacity. We next tested all our children and grouped them according to our institution classification (Barr's) from one to seven. Then taking the average of the group we again compared them with Smedley's percentiles. The result was that in these measurements of grip and lung capacity the percentage of normal that these children can do varies exactly as the grade of the child. The seventh grade do about fifteen per cent. as much as the normal; grade one (the lowest grade) do nothing.

Here, then, we have one item in a classification based on voluntary control of muscles. The dynamometer or the spirometer is thus shown to be of use in classification. Other motor tests are being used that will doubtless show the same thing and serve to supplement this one. Coming to the mental tests, we have, so far as I know, only two that we can consider. Dr. Nosworthy presented a paper two years ago before this association, but she studied only the very highest grade, the Waverley school cases, and the best of those, so there is nothing there available for us.

We have the De Sanctis tests, six in number, which have the advantage of being very quickly applied. It does not take long to put a child through the six tests. These are good as far as they go but they do not classify close enough for our purpose.

The most elaborate set of tests we have are those of Binet, of Paris. It seems to me that a decimal classification would be

the most useful to us. If so, Binet's plan lends itself to this very nicely. He actually makes ten grades of defectives. He has five grades of idiots. That is more than we need. Let us say three grades of idiots, three imbecile and three feeble-minded. That makes nine. Call ten of the scale the normal child. We could divide them roughly, to start with, into the idiot, the imbecile, the feeble-minded; then subdivide each into high, middle and low. The following are Binet's tests for these grades:

First, you have the profound idiot, the child who responds to nothing at all; then the middle-grade idiot who answers Binet's second or third test; the high-grade idiot who recognizes nourishment. Then you come to the low-grade imbecile who is differentiated from the idiots because he imitates. The middle-grade imbecile who comes next corresponds to the three-year-old child and is able to name objects and to recognize them by the name. The high-grade imbecile corresponds to a child five years of age and can remember and repeat three figures. He can compare two lines; he can compare two weights when they differ as much as 3 grams and 12 grams and he can define usual objects—not, of course, logically. He will tell you that a dog barks; a house is something in which to live.

The lower-grade feeble-minded corresponds to a seven-year-old child. He can give you phrases; he can compare lines, making some errors when it comes to the lines that differ by 1 to 3 mm. in a hundred; out of fifteen such comparisons he has from one to five errors; the rest he gets right. In the seriation of the 3, 6, 9, 12 and 15 gram weights of same size and appearance he makes from one to three errors; he transposes two sometimes. In this test, when the weights are shuffled and one is taken away and he is asked to tell which one has been removed, weighing them by hand, he fails utterly. He can not make rhymes.

The middle-grade feeble-minded corresponds to the nine-year-old child. In the list of hypothetical questions—What ought you to do when tired? What should you do when you have done an irreparable wrong?—he can answer some of them. He makes from one to four rhymes in a minute. He can repeat four phrases out of eight; he can remember 6.2 pictures on a card of thir-

teen pictures. In the seriation of weights he commits four errors; when one of the weights is taken away and he is asked to tell by lifting the rest which one is gone, he makes from two to five errors.

To the high-grade feeble-minded you can give rhymes and he gets a large majority of the hypothetical questions. He repeats five phrases, remembers 7.2 images out of the thirteen and recites six figures. He makes .2 errors in comparing the lines and 2.4 errors in the seriation of weights.

Here we have, then, a tentative set of mental tests which might serve as a basis for classification. There are many difficulties, many things to be worked out. The thing I want to leave with you, the purpose of this paper, in fact, is the question: Is it likely to be worth while to work together and try to evolve such a classification or does it seem utterly hopeless and useless?

I may add that our experience with these Binet tests is on the whole encouraging. They do indicate the grade of the child with surprising accuracy.

#### DISCUSSION

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Dr. Little: I am very much interested in this paper for the reason that it is a movement in the right direction. Whether there is anything there of permanent value is a matter I will not attempt to express an opinion upon, but it has seemed to me ever since I have had anything to do with this work that it is time for the older and well established institutions—those that are well organized and doing mighty good work for the feeble-minded—to attack the scientific side of the question. We know so little about the feeble-minded scientifically and we shall continue to remain in ignorance unless this kind of work is done. If a half-dozen, or more of the older institutions with a large number of children were to start up and maintain scientific work, we should begin to accomplish something.

Dr. Murdoch: I enjoyed the paper very much. I think it



suggests great possibilities. With regard to the classification, it depends a great deal on what we have in view. I would not minimize the importance of etiological, clinical or pathological classification, such as the classification with regard to microcephalic cases or hydrocephalic or Mongolian. Things of that kind have great importance. We have the Mongolian idiot, the Mongolian imbecile, and the Mongolian feeble-minded child. I think the classification of degree of mental defect given by the English is very simple and very interesting. They distinguish between the idiot, the imbecile and the feeble-minded, in this way. The idiot is the ament, who, on account of mental defect existing from birth or an early age, is unable to protect himself from common physical dangers. The imbecile is able to protect himself from ordinary physical dangers but is one who on account of mental defect from birth or an early age is not able to make a living even under favorable conditions. The feeble-minded is one who is able to make a living under favorable circumstances and by direction but who, on account of mental defect existing from birth or an early age, is not able to compete on an equality with normals or to conduct himself with ordinary good sense or judgment. I think that is a very simple classification of degree and one which we all could very easily apply.

Dr. Bernstein: In connection with the so-called pathological classification, I think we have no right to consider it of any worth at present. Here is a case of microcephalis or hydrocephalis—what does it mean? I do not consider these terms indicative of any definite pathological condition; they refer to size. Mongolian does not mean anything definite pathologically, it does not suggest any underlying condition. We have no intelligent pathological classification at present.

Dr. Rogers: I wish to express my gratification to Dr. Goddard and Mr. Johnstone, who have been promoting this work and using their laboratory to conduct investigations of this kind. We certainly need some leadership to prosecute more thoroughly scientific work with the feeble-minded in the way of studying what our material is. Dr. Murdoch has referred to the classification of the Royal Commission of 1894. It appeals to me as a

very practical classification for popular use and I have partially adopted it for certain purposes because of its simplicity; but, as Dr. Goddard has suggested, all classifications of that kind represent very general groups and often it would take some time to determine where the borderline cases between these different varieties belong. We need, as he suggests, something by which we can determine from a pathological standpoint what is best to be done with a given child. Of course, the training of a child is not all done in a formal school room as we all know. All of his experiences of life are part of his training as is the case with the normal child, but when the limitations as to capacity and time are as marked as they are in the cases of feeble-minded children, we certainly ought to know the most obtainable about their capacities at the earliest possible moment. I congratulate the association upon having in its membership those who are taking up this work and pushing it as the Vineland people are.

Dr. Keating: In the practical working of this subject, from what has been said it seems that the different men here who have charge of institutions are quite far apart as to their choice of a classification. It seems to me we ought to get together—the institutions, anyhow—and have a basis of classification.



## TALIPES EQUINO-VARUS

BY H. F. MCCHESENEY, M. D., BROOKLYN, N. Y.

In this paper on talipes equino-varus I wish to be brief on introduction and spend the major portion of time and energy on treatment.

**ETIOLOGY:** That we know little or nothing about the etiology of clubfoot is perfectly illustrated by a casual glance at the literature on the subject for no authors agree as to the cause, except along two lines, and only in a half-hearted way on these. the one, abdominal compression in the uterine cavity, and the other, arrested development. The theory of arrested development will explain some of the forms of talipes but by no means all. One other theory that is brought to notice is that there is an inequality of muscle balance in utero due to some central nervous system lesion; but in most cases of congenital clubfoot we have well developed muscles and bones well developed, but the relative position of these bones and muscles is where the trouble lies.

I wish to divide the subject into two classes—the congenital clubfoot and the acquired clubfoot, and of these I wish to present the congenital form. Just a word about the anatomy of clubfoot and then we will pass on to the treatment, for the diagnosis is simple and unmistakable and the prognosis is dependent on the efficiency of your treatment, the co-operation of your patients and your own stick-to-itiveness. For the cases are sometimes tedious and it takes patient persistence until the deformity is over-corrected and held in that position over a long period.

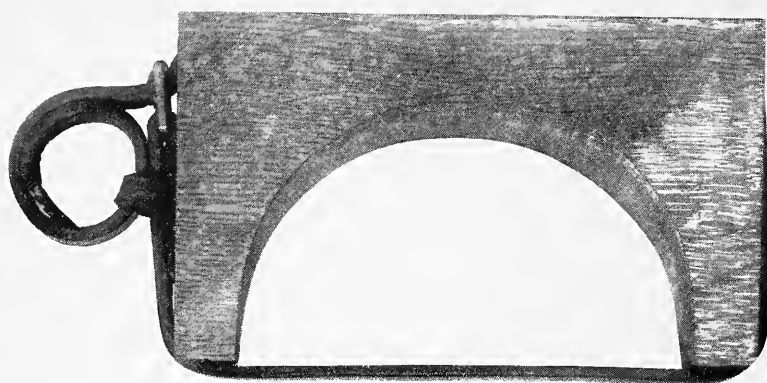
**ANATOMY:** The main deformity is a dislocation inward of the anterior part of the foot, the dislocation taking place at the mediotarsal articulation. This effects bones, fasciae, ligaments and skin. The scaphoid articulates with the side and under surface of the head of the astragalus, and in one case I have seen there was such an extensive deformity laterally that the scaph-

oid appeared to articulate with the internal maleolus. The cuneiform bones follow the displacement of the scaphoid. The metatarsal bones and the phalanges swing to a right angle and in some cases to an acute angle with the axis of the leg. In very young children the shape of the bones is but little altered, while in older children there are marked and permanent changes in the bones. The alteration in position and shape is mostly in the os calcis, cuboid, astragalus and scaphoid. The os calcis is drawn from the horizontal and, in marked cases, approaches the vertical. It also rotates on its vertical axis as the anterior extremity is directed outward and the posterior extremity inward. This leaves the anterior articulating facet set obliquely to the axis of the bone. The cuboid bone follows the inward direction of the extremity of the foot. The astragalus does not rotate on its vertical axis but is depressed forward on its horizontal axis so that only the posterior portion of its superior articular surface is in contact with the articular surface of the tibia. The metatarsals are spread out like the ribs in a fan making the anterior portion of the foot abnormally broad. The tendons are displaced inward and there is atrophy of the calf muscles from disuse. There is secondary displacement backward of the knee and laxity of the ligaments if the case has walked much; and, of course, callous formation from pressure if the patient has walked. The adult type differs only in secondary results of deformity and an aggravated distortion of the bone and tendon elements as well as the fascial contractions.

**TREATMENT:** This varies according to age, duration and nature of the deformity and should be purely mechanical or both mechanical and operative. The object of the treatment is the correction of the deformity and the holding in a corrected position until any return to a deformed position is impossible.

These cases may be classified thus: First, the congenital clubfoot of the infant; second, neglected cases, or those showing great resistance; third, adult cases left untreated. This is but an arbitrary classification for my own convenience and I would like to take up the first class only. If this class of case is treated at the proper time and in the proper manner the majority of them





will give good functional results and the form of the foot will be little altered and little or no atrophy will remain. One may look at this infantile type more as a twisted foot, for the changes in the bones are slight and the bones are largely represented by yielding cartilage that will readily reshape under favorable conditions. The treatment may be divided into the operative, or quick method, and the gradual. The operative method consists of a light anaesthetic and mostly all manual manipulation in twisting the foot and overcoming the varus. If very resistant the use of a block (which see) helps a great deal. The block is five inches high and has a base of 3x7 inches tapering at the top to one inch in width. The cut-out portion begins  $\frac{3}{4}$  inch from each end and extends to within one inch of the base of the block. A groove is cut  $\frac{3}{4}$  inch wide and 3-16 inch deep around the block and a strong oak tan strap buckled tightly into the groove. This gives a hammock effect to the strap. Over this a towel may be placed and the foot moulded into shape. It is also a very useful block for the treatment of flatfoot as the moulding effect of the strap pushes the bones up into place and does not injure the soft parts. Turned upon its side it may be used as a Lorenz block for operation on congenital dislocation of the hip. The block is made of laminated oak pieces  $\frac{3}{4}$  inch thick, glued together and tested up to 225 pounds. The tendo-achilles usually stretches out readily but a subcutaneous tenotomy of the tendo-achilles is very simple and safe. The foot is put up in an over-corrected position and retained by a plaster bandage. This constitutes the first part of the treatment and the subsequent brace treatment is the same as will be taken up later.

The slower method is the gradual replacing of the foot into its normal relations by first overcoming the varus. This is accomplished by the plaster-paris bandage or by the Judson splint. Just a word about the plaster-paris bandage that may be of some practical use. First, have some good, quick-setting bandages about two inches in width; these should be soaked in warm water and salt should never be used as it gives a brittle cast and one which softens in damp weather. Take Z O adhesive plaster and place a strip on the outside of the leg reaching from the knee to

one inch below the heel: smear on some vaseline over the outside of the foot where the skin throws into wrinkles when the deformity is corrected, then use a light flannel bandage down the leg and over the foot while the foot is held in the corrected position. Don't put on the bandage and then twist the foot or you will make ridges that with the cast pressure will get you into trouble. Just a thin layer of cotton around the anterior portion of the foot and below the knee, also a light pad over the external malleolus. Be sure to have cotton between the toes. Don't get too much padding on or there will be difficulty with the foot turning in the cast. As the bandage is put on bring the free end of the Z O adhesive plaster out at the ankle and incorporate this with the cast, rub in each layer of plaster and don't get too heavy a cast. This should be changed once a week. Don't let the mother make you believe this will stunt the foot,—non-treatment is what stunts and gives atrophy of muscle. A cast changed each week will never stunt in any way. This treatment will leave the stretched parts more relaxed after each cast and you will gain ground with each application. Forget the equinus until the varus is over-corrected and the os calcis rotates on its axis, and then you will be able to appreciate just how much equinus is really present. Then you may begin to overcome the equinus. After three months you can expect to shift onto your retention-brace treatment.

In selected cases where the tendency to rotate was marked I have had some very satisfactory results with the Judson brace. This is very good for the varus part of the deformity but I cannot make it work for the equinus. When I get to that stage I use a little brace which I have improvised and for convenience sake may be called the X brace. This brace will hold the varus correction gained and by gradual change of angle of the foot-plate the equinus can be very satisfactorily corrected and held. The varus is not only held corrected but over-correction can gradually be brought about. I will not take the time to describe the application of the Judson brace as I feel that you all know how it works, but the X brace you may not have knowledge of. The brace is made of tempered brass, 1-16 inch thick for most



cases and is cut out according to the size of the child's leg and foot. At the lower extremity,  $1\frac{3}{4}$  inch in width is about right, tapering to  $\frac{3}{4}$  inch where it will be bent for the heel. The posterior upright is  $\frac{3}{4}$  inch in width and at the upper end it is left  $1\frac{1}{2}$  inch wide to get a good application to the leg with the adhesive plaster. The angle at the heel varies with the amount of correction or over-correction of the equinus and the foot-plate is rotated in relation to the upright axis as the varus is corrected until the outer side stands half an inch or more above the inner side, thus over-correcting the foot. The brace is wound tight with a flannel bandage and the foot-plate strapped to the foot with adhesive, first over the toes and then over the instep. Then the upright is swung into position and a strap of adhesive put around just below the knee; this throws up the outside of the foot and flexes the dorsum toward the shaft of the tibia. The X brace may be used following the correction of the varus with the plaster-paris bandages or with the Judson brace or as a second dressing following the operative correction of the foot. It is a good brace to wear until the foot is entirely relaxed or the child begins to walk, then the regular brace with the right-angle stop joint and interior riser and toe-lacing with the lacing over the instep, can be used. We use the double bar or single inside bar according to the perfection of the correction. If the deformity is not completely corrected the single inside bar is best, with the instep lacing and the lacing over the toes as well as the riser. If the case is well corrected the double bar brace with riser and without toe-lacing is the better. This has but a light tape over the instep to hold the brace in position until the shoe is slipped on. In the young cases when over-correction is desired the single-bar brace can be so shaped as to hold the outside of the foot about half an inch high and then the outside of the sole of the shoe is built half an inch high, and the child encouraged to walk. This tends to make the child toe out and thus overcome any rotation tendency there may be in the tibia.

One thing of great importance is to impress on the parents the necessity of treatment, the slow nature of the treatment and

the importance of observation of the case during the brace-wearing period.

It may suggest to your mind that building the shoes on the outside would give us a flatfoot condition. Well, it does not for when we get to the stage of the flatfoot we have the case pretty well cured. Take off the brace and you will get enough contraction of the fascia to give a recurrent clubfoot if you don't observe the case closely and see to the wearing of proper shoes and keep the shoes built up a little on the outside.



THEORY REGARDING CERTAIN FUNDAMENTAL  
PRINCIPLES INVOLVED IN THE PRO-  
DUCTION OF EPILEPSY

BY A. L. BEIER, M. D., CHIPPEWA FALLS, WIS.

There are many theories to be found in medical literature that fail most remarkably to throw any light upon, or, at least, that fail to give us a clear conception of, the fundamental principle involved in the causation of epileptic or convulsive phenomena. Apparently we are not much nearer to the truth now than we were when the study of convulsions was begun. However, a lack of success in the past should not discourage us from endeavors directed toward the discovery of the ultimate cause. The explanatory faculty of the mind, based on the individual experience of the thinking organism, may evolve theories that are on first thought captivating and apparently adequate, which upon thorough investigation are proven to be false and yet have the power of misleading and misdirecting the student, for he feels that he may be tearing down pet ideas; and, again, that he may be bringing upon himself an avalanche of criticism, oftentimes tinged with bitter ridicule. However, we all have the sublime faculty of erring, and that, in and of itself makes it possible for us to undertake so hazardous an attempt.

Our deductions, based on the meager facts that we are able to glean from nervous physiology and, incidently, from the great variety of observations on epilepsy, we hope will meet with kind consideration, and, at the same time, some degree of leniency on the part of men who have spent a goodly part of their time in the earnest endeavor to solve one of the most mysterious and perplexing problems that the science of medicine presents to us. After all has been said, after all theories have been sifted and resifted, we still find ourselves wandering amidst mazes to which vagaries have attached themselves, and we are forced to

recognize a sphinx-like problem in epileptic phenomena that is as difficult of solution as the sphinx itself. We are confronted with the problem daily in our inspections at institutions; casually, on the street; anywhere, in fact. We hear a cry. Before we have had time to see whence the cry came we see a body pitching forward, tonic and clonic muscular contractions, and then we ask ourselves over and over again the same perplexing questions. Why? How? What is it?

When attempting to explain natural phenomena we are balked at every step, yet we do not feel content until we have evolved an explanation that is, at least, satisfying. However, we may reason from false premises. We may be unable to state facts, yet still be allowed the privilege of adding a few results of observation which have, at least to us, the intrinsic value of facts. Medical literature abounds with theories that attempt to explain epileptic phenomena; different forms of epilepsy and different types of convulsions are recognized; nearly every kind and type is regarded as having a separate, fundamental cause. We believe, however, that we are justified in our conclusion that all convulsive phenomena have as a basis for their existence the same underlying active principle in any and every case. But, as someone once said, "Hypothesis follows hypothesis; the ruins of theories are piled one upon the other; but truth never escapes us." It may be that this attempt is as futile as other attempts have been when ultimate truths are brought before the tribunal of human curiosity. We may be simply evolving another theory that will be consigned to that pile of ruined theories that time and experience have erected.

Histo-pathology offers no solution of the problem that convulsive phenomena present to us. It has vainly attempted to pierce the veil shrouding it in darkness, but practically nothing of value has been learned. True, we have been taught to look somewhere else; we have been taught that we must use other methods to solve the mystery. We believe that physiology, the study of functions, will aid us in determining the ultimate principle underlying the generation and perpetuation of convulsions, for a convulsion points to a function of the nervous system that

is present even under normal conditions. A convulsion, we believe, is primarily a normal manifestation of the nervous system becoming a disease when the convulsive habit is established. When this occurs epilepsy exists.

Along with the physiological aspect of the study, the next important factor that presents constant and interesting features, is the etiology of the condition. We will sum up briefly the various causal agents that simply serve as so many sparks igniting a function that lies dormant in an active part of the nervous system.

Heredity is an important factor both from a sociologic and a medical standpoint. It predisposes the organism to convulsive seizures in two ways. The active function may be directly transmitted from an epileptic parent to the offspring. Again, it may bequeath an instability as is evident in the children, the offspring of neurotic, psychopathic, alcoholic, syphilitic, tuberculous, etc., parents. No one will venture to deny that children endowed with a faulty heredity are more prone to convulsions than children whose ancestry approaches the normal more closely. In fact, it seems that only a slight factor is required to engender convulsive seizures in children some of whose ancestry have been subjects of epilepsy.

Age, also, has quite an important influence. Convulsions are more frequent and more easy of production in children than in adults. Perhaps about eighty per cent. of all epilepsies are developed before the age of twenty years.

Traumatism is also a factor that perhaps produces the most pathetic results. The manner in which it is influential in the production of convulsions will be considered later.

The emotions play some part. Fright, intense excitement, grief, profound anxiety, shock, etc., are considered capable of exciting convulsive attacks.

Intoxication is one of the most frequent causes of convulsions. Thus we have puerperal eclampsia based on severe auto-intoxication; we have convulsions caused by diabetes; by uremia; by chronic nephritis; by syphilis, alcoholism, plumbism, and auto-intoxication due to a variety of causes. Convulsions

are seen in connection with the various fevers: scarlet fever, measles, typhoid, typhus, and yellow fever; malaria, pneumonia, influenza, diphtheria, etc. The convulsions in these cases are undoubtedly due to the toxic state of the blood.

Convulsions arising from seats of peripheral or sympathetic irritations, the so-called "reflex epilepsies" of different writers, are oftentimes met with.

All students of epilepsy agree that the study of the condition must be centered about the production of the first convulsion. A convulsion, we maintain, is a normal, physiological manifestation of nervous phenomena subserving the function of a particular nervous center, being pathological, not per se, but thorough the morbid causal agent which initiates it and through the morbid conditions it develops, arising, invariably, from sensory impulse. We find sensory and motor phenomena inseparably associated with each other. Without the one the other does not exist. The function of the nervous system is to conduct, direct—not initiate—impulses. Associated with this function is the faculty of memory which means that an impression while being conducted leaves in its pathway a change more or less indelible, such that when another impression afterwards proceeds along the same route it finds, as Romanes said, "the footprints of its predecessors." Morat says, "An impression, by being itself renewed and by renewing the sensation, forms habitual paths for itself in the nervous system. Not only does it create its own paths which cause it to have in this system always the same reverberation, but it continues permanently in them." A convulsion once produced, a greater predisposition obtains, and, as a result, a slight causal factor may precipitate a repetition of the act, which repetition, if frequent enough definitely thereafter establishes the habit.

Again we find ourselves confronted with the all-important question: How is a convulsion produced? A convulsion points mainly to motor phenomena in its expression. Sensory manifestations are barely observable, except in cases presenting sensory auras; and, yet, it is hardly to be doubted that all convulsions are initiated by sensory stimulation. Sensory stimulation

means an expression of the motor properties of the neurone or neurones involved. A convulsion points to a common active force; a distinct action of an especial, organized media governing certain activities; producing disturbed consciousness and disturbed motility. An act of the nervous system that presents such constant features, a force common to or observable in the act in its every manifestation, points necessarily to a center. Stimulation of a center may obtain in a variety of ways. A toxic condition of the blood may act as an irritant to the center, which irritation may suffice to produce the motor properties which characterize it. Again, it may undergo stimulation through any variety of impulses, sensory in character, which may be conducted directly to that point, or which may be reflected to that center over different pathways. The stimulus to the center may vary both in intensity and kind. Hence, if we admit that convulsions subserve the specific function of a center, we can readily see that there is a possibility of having a variety of convulsions differing both in degree and in kind.

Consciousness may be impaired or suspended for a variable length of time. Muscular coordination, in so far as volitional movements are concerned, is entirely lost. Contractions, tonic and clonic, occur in a great many cases. A part or the whole of the voluntary muscular system may be involved. There may be only a momentary suspension of consciousness, manifested, for example, by a repetition of an act that the individual was performing at the moment that the attack began. Again, the motor manifestations may vary from a slight start, a momentary tonic fixation of a group of muscles, to a generalized tonic contraction of the entire voluntary muscular system followed by clonic contractions. The movements are incoordinate and purposeless.

In studying the etiology of convulsions, it becomes apparent that any irritation to the nervous system, be it central or peripheral, if sufficiently intense and prolonged, is capable of producing convulsions. Hare, in his book on epilepsy, mentions a case where prolonged tickling of the feet resulted in a typical convulsion with loss of consciousness, in a man who was not subject to epilepsy. He cites another case where a man, not

an epileptic, was thrown into a convulsive seizure after a prolonged, intentional attempt at barely touching the edge of a table with arms directly extended before him. He was experimenting as to the length of time he could perform the act when he was thrown into a severe spasm. Convulsions seen in women during the puerperal period, convulsions occurring in diabetes, in uremia, and in the fevers, etc., in individuals apparently normal, lead one to assume that the capacity for convulsions exists in all persons. No one seems to be immune. Young and old are liable to convulsive manifestations; the old not so much so as the young in whom reflex activity is most pronounced. Dr. Wilmarth kindly mentioned a case to the writer where a man of powerful intellect, personally known to him, had at the age of sixty years a severe convulsion at the onset of an attack of pneumonia, never before having had such an attack. Subsequently, up to the time of his death which occurred a few years later, there was no repetition of the act. Some time ago, while walking through a ward, a low-grade boy was dozing or sleeping in his chair. I touched him rather lightly on the vertex of the head with a percussion hammer that I carried and was rather surprised at the result of my interference with what seemed a peaceful siesta. The boy emitted a cry that closely resembled the cry frequently heard at the beginning of an epileptic seizure. There may have been a generalized momentary tonic contraction which I did not observe for there was too rapid a sequence of events. There must have been a sudden contraction of the voluntary muscles powerful enough to throw the boy to the floor. When I turned to see the result of my action his limbs were undergoing a number of rhythmic contractions in rapid succession which lasted about one-half minute. He then arose slowly in a dazed way, reeled once or twice from side to side, then staggered to a chair and finally roused entirely. I do not think it probable that he was conscious of anything that transpired. This patient was not an epileptic, never to my knowledge having had a convulsion before or after.

Convulsions, then, are seen in young and old, occurring in individuals comparatively normal, initiated by a variety of



causal factors. We can not imagine so great a variety of causes as capable of producing convulsions that present in their expression such constant features, unless these causal factors simply act as excitants to a center of the brain whose function it is to initiate phenomena, under stimulation, seen in this disorder.

There is a tendency among students of epilepsy to regard the cortex of the brain as intimately concerned in the production of convulsions. Cortical epilepsy, considered as a disease, does not exist, for, in cases of traumatic epilepsy, in cases of hemiplegia where the injury can be more or less definitely located, removal or eradication of the existing lesion does not abrogate the convulsive seizures. Again, in cases of hemiplegia where the lesion is located in the higher levels, for instance, in or about the Rolandic fissure, it is hardly rational to suppose that the convulsive seizures are governed by the area involved. It is highly improbable that a cortical area whose functions have gone into disuse is still capable of producing motor manifestations as severe as seen in epileptic phenomena, except that the lesion, simply by its presence, either acts as the seat of chronic irritation, or initiates new and varied impulses which are directed to some lower center for distribution, or inhibition, or conservation. Furthermore, such a diseased area can be regarded as one that has practically been eradicated by excision, at least until the part has sufficiently recovered to again assume its function. However, the convulsive seizures once begun do not cease. Moreover, experimental removal in animals of the entire cortex does not eliminate the possibility of eliciting convulsions by stimulation of the basal ganglia. Therefore, we are compelled to regard the lower centers as capable of producing such phenomena independent of the higher centers or the cerebral cortex. We believe that the basal ganglia are profoundly concerned in the evolution and the perpetuation of convulsive phenomena. We believe that there is a center that governs convulsive seizures, even as there are centers that govern vomiting, coughing, and other acts that nature has provided. We believe that generalized convulsions cannot be produced in an area higher or lower than the basal ganglia.

Observers have been naturally led to suppose that the cerebral cortical area marks their origin or governs their production because consciousness is always involved and because it is assumed that consciousness is an attribute of the cortex of the brain alone. That consciousness is diffused through the entire cortical substance, is, to say the least, doubtful. Dr. Frederick Petersen, at a meeting of the New York Neurological Society held October 6, 1908, says: "In my opinion the seat of that power which produces the manifestations of consciousness is in the basal ganglia, probably the corpora striata, and consciousness is a peculiar summation of energy at that point capable of being directed like the rays of a searchlight into this or that portion of the brain." Loss of consciousness is, perhaps, the principal feature in a convulsive seizure. Ofttimes it is the only symptom of the epileptic disorder. The suddenness of onset of unconsciousness is constant and unique. It is as rapid in development and similar to the unconsciousness produced by a sudden, severe blow on the head. Frequently the victim drops as quickly at the beginning of a convulsion as he would had he received a severe blow on the head or an injury to the base of the brain. This loss of consciousness may be the only manifestation of epileptic trouble, as is exemplified in an attack of petit mal.

There are certain conditions that closely simulate the unconsciousness produced in an epileptic seizure. As mentioned before, a sudden loss of consciousness occurs as the result of a severe blow on the head; there is no visible lesion. Fainting, or the so-called cardiac syncope, is another example. These occur without spasm. A gentleman who afterward developed grand mal seizures, stated that unconsciousness came upon him not infrequently while walking the street; that he would find himself, upon recovering, in the middle of the street or at some point a short distance from where consciousness left him. In this case the power of locomotion was not completely lost but consciousness of surrounding objects was momentarily obliterated. Dr. Wilmarth mentioned the case of a boy who came under his observation a few years ago. The case was unusual from the fact that the slightest touch anywhere on his head would

cause him to fall as if struck a heavy blow with an axe. This would not occur if he was conscious of one's intention. After a little while he grew suspicious and would watch closely any person who showed any inclination to touch him. The observer one time lighted a Bunsen burner while the child watched him intently, and threw the match unthinkingly on his head. He fell instantly to the floor. The period of unconsciousness did not last at any time over half a minute when he would rouse, looking dazed, and resume his occupation. In a few months he developed true epilepsy and thereafter these falls could not be induced by touching him, as formerly.

It is generally recognized that subjects suffering from syncope or subjects of vertigo, "blanks", "absences", "darknesses", are especially liable to the development of true epilepsy. Furthermore, epilepsy may follow traumatism of the head. What causes this sudden change from what seems a simple disorder to the development of one of the most awe-inspiring maladies? What causes the temporary loss of consciousness in any of these cases? The cause is difficult to explain. We know so little about consciousness that it is nearly impossible to draw any conclusion from phenomena seen in its suspension. It has been suggested that unconsciousness is due to a change in blood pressure, but the rapidity with which the change occurs arouses doubts as to whether any vasomotor disturbance could act quickly enough to account for it. Besides, this change in blood pressure has not been proven. Consciousness and epilepsy we find closely associated. Without at least a disturbed consciousness the latter does not exist. In cases of petit mal where unconsciousness may last only a momentary length of time it is rather difficult to understand how consciousness can be regained so quickly if the unconsciousness is due to a vasomotor disturbance. How could the entire cortex recover with such remarkable speed? We believe with Dr. Petersen, quoted heretofore, that the power of consciousness has a definite seat, and that it is "a peculiar summation of energy at a certain point in the basal ganglia capable of being directed like the rays of a searchlight into this or that portion of the brain." We believe that the uncon-

sciousness due to a blow on the head is like unto the unconsciousness developed in an epileptic seizure, initiated by an impulse or a succession of impulses which find their way to some lower center which governs consciousness and which are too powerful for inhibition. Unconsciousness then supervenes. In epilepsy, impulses may issue from either the higher centers or from the peripheral space organs; the result is practically the same and points to a similar nervous operation.

When conscious, we inhibit many reflex acts daily. It appears that only with the loss of inhibition that consciousness exerts over motor manifestations, do purposeless motor acts arise. When the inhibitory influence of consciousness is lost, we naturally have a disturbance of motility which varies in both degree and kind, dependent on the kind and intensity of sensory stimulation. Immediately after the suspension of consciousness in convulsive seizures, the muscular movements begin, following each other with almost perfect rhythm until the nervous force appears to have exhausted itself. The subject may regain consciousness quickly or gradually. Here we are confronted with the original question: In what portion of the brain do these muscular or motor manifestations originate? As said before, it is hardly possible that they originate in the cortex. Convulsions are especially liable to occur in infancy; they may occur even shortly after birth when the gray matter is but illy developed; it would appear extremely improbable that so poorly developed a structure could bring about such terrific muscular movements. Moreover, a case is on record where an anencephalic monster, with the cerebral hemisphere practically wanting, had convulsions during the brief period that existed before its death. Again, where generalized convulsions have been induced artificially or experimentally in animals, it has been found that they can only be generated by stimulation at some point higher than the medulla. Moreover the centers in the medulla have been quite thoroughly localized and no centers have been found that govern this act.

If all stimulated movements are regarded as being reflex acts, we would say that a convulsion is always a complex reflex

act; that is, is always dependent on some form of sensory stimulation of a center that appears to manifest its function, or motor responses, automatically. Even automatic acts are simply reflex acts. A nervous center cannot act spontaneously; it must be acted upon by some form of stimulation: its response is automatic, subject, to a greater or lesser degree, to inhibition.

There is one reflex act that so closely simulates an epileptic seizure that observers cannot help but see the similarity. Fright, depending upon the causal factor for the intensity of the motor and psychical manifestations, elicits a reaction or reflex phenomenon as powerful, or nearly so, as an epileptic attack. We find conditions of the mind quite similar; there is momentary unconsciousness, or at least confusion of ideas; also disturbance of motility which in some instances bears a close resemblance to a slight tonic contraction of the voluntary muscular system; this is sometimes followed by a shudder or even by a succession of tremors. Again, there is sometimes heard the cry which is entirely involuntary. We also oftentimes witness the ashen paleness seen at the beginning of a seizure. Severe fright even causes involuntary micturition and defecation, as is often remarked in a true epileptic convulsion; in fact, fright has been known to cause epilepsy, demonstrating that a convulsion differs only in degree from a severe attack of fright.

Severe, involuntary muscular movements, convulsive in character, are seen in chills caused by exposure to cold; the chills seen in malaria, in septic poisoning, at the beginning of an acute fever, vary in intensity and closely simulate the rhythmic movements seen in an epileptic seizure. True, consciousness is not lost, and yet it can be safely assumed that the same motor mechanism is brought into activity.

Life is filled mostly with reflex acts. Spencer defines life as "the continuous adjustment of internal and external relations"; ultimately and definitely, as far as we are able to say, it is a complex system of reflex acts. The lower we descend in the scale of development, the more evident reflex activities are. Consciousness has its analogue in reflex activity in the lower organisms. There seems to be a particular realm of the brain

that has control over the major reflex acts, and, moreover, records a memory of these acts. It is true that all psycho-neural acts by repetition or training become more and more easy of accomplishment. A certain automatism is produced. We know that no matter how thoroughly we understand the mechanism of an act, it is first necessary to train our muscular system in the performance of the manoeuvres required; that after a number of repetitions but very little direction is needed. The attention of the individual performing the act may even be diverted, and yet, muscular movements of a complicated character go on smoothly and accurately. Thus we see a pianist capable of manipulating the keys more or less automatically; the rapid movements of a boxer or a fencer; the perfect adjustment of force and direction shown in the act of throwing and catching a ball in individuals trained in ball playing. These phenomena occur as rapidly as the eye is able to appreciate the existence of an external influence. We feel justified in saying that it is highly improbable that the higher centers are involved in the performance of an act whose accomplishment has not been subjected to the tardy action of volition. The memory of the act and of foregoing similar acts, persists and can be reproduced by volition. Automatic acts can be initiated or inhibited by an act of volition; the presence of volition presupposes the presence of consciousness. We believe that the basal ganglia are intimately concerned in these rapid responses to suddenly arising stimuli and also have the inherent power of regulating automatically the motor responses necessary to the individual life of the organism, independent of the so-called higher centers. Physiologists claim that the corpora striata are deeply concerned in the regulation of automatic movements. These bodies lie in a position convenient for the reception of impulses arising from the different senses. They are in close proximity to the corpora quadrigemina which are particularly connected with the exercise of the special senses, sight, hearing and smell. This we would expect, for the majority of the major reflex acts are closely associated with the impressions made on these senses. Again, they are directly connected with thalami which receive

the sensory impressions from the entire body; also with the internal capsule, the cortex, and, lastly, they are attached by connecting fibres to the nuclei of the gray matter of the pons. The elements which go to make up these connections convey impulses in one or the other direction; part of the fibres which compose it ascend, and the others descend. Little definite is known regarding the function of this area, but we do know that it is capable of coordinating into motor actions the impressions coming from the periphery, thus taking active part in the regulation of the higher and more complex psycho-neural reflex acts. Furthermore, we know that irritation of one of these bodies results in contractions of the musculature of the side opposite the body stimulated.

This particular area must, indeed, be an important one, for comparative anatomy teaches us that it practically exercises the function of the brain, in a rudimentary way, in organisms where the cortical covering is still absent. In these organisms—fish, for instance—the power of locomotion, though a reflexly or automatically performed act, is well developed. Consciousness, we can safely say, is present in these organisms in a rudimentary way. The higher consciousness, mind, including intelligence and volition, seems to have developed in direct proportion to the development of the superimposed structure. So long as we are unable to strictly define consciousness, it is not illogical to suppose that a specific area controls its various manifestations. Moreover, if we grant that consciousness is present, even in a rudimentary way, in organisms where the cortical covering is still absent, it would appear rational to assume that the various superimposed structures contain within themselves the elaboration of a system of more finely developed structures that act mainly as storehouses of the various experiences encountered in the life history of the organism. If the power of consciousness is centered in the basal ganglia, or more particularly in the corpora striata, then we can readily understand how a nervous discharge proceeding through these bodies is capable of producing instantaneous unconsciousness or disturbed consciousness.

We cannot find a more reasonable location for an area which governs such psycho-motor manifestations than the corpora striata if we are correct in our assumption that a convulsive center does exist. If our conclusion is founded on a shadow of truth it becomes an easy matter to explain the initiation and perpetuation of the convulsive habit. Thus, in looking over the various factors that we know to be capable of producing convulsions, the modality of its operation becomes more clear to us. We can readily understand why heredity plays such an important role, for in children, the offspring of psychopathic or neurotic parents, we find them more liable to convulsive attacks on account of the fact that a nervous instability has been bequeathed to them; and, furthermore, they may be considered to be, in the scale of development, a little lower than the parent; and, again, the lower we descend in organic life, the more evident is the reflex activity. Age has an important bearing because the younger the individual the more prone is he to the manifestations of reflex activities. It appears probable that only an intense sensory stimulation of a portion of the brain that is intimately connected with every part of that organ and located at a point where it receives impressions from all over the body through the organs of special sense, and, furthermore, through the entire sensory apparatus, is required to render such marked disturbance of consciousness and motility possible. The corpora striata are in such intimate connection.

Whatever the exciting cause, it acts like a lighted match touching off what is otherwise a dormant cannon, eliciting, if powerful enough, a motor and psychical response so great as to throw the organism into unconsciousness, which means a loss of the inhibition that consciousness exerts over reflex acts and a resultant succession of motor discharges that sweep over cerebral and spinal pathways uninhibited and that are sufficient to institute contractions in the muscular system until the center has become exhausted. The convulsive habit once engendered, only a slight physical or psychical disturbance is required to precipitate a seizure and then the act appears to arise spontaneously.

If convulsions subserve the function of an especial center,



the question naturally arises: What useful part can this function play in life's history? Nature supposedly selects only those parts that are useful and these are transmitted. As organization advances in the developmental scale, the useful parts are retained and the unnecessary, supplemental parts are gradually eliminated. It is quite impossible to say just what role convulsive phenomena have played in life's history, and, yet convulsions have occurred since time immemorial. A convulsion is apparently only one of the many incongruities with which life is filled. When we understand vital phenomena somewhat better; when we know what consciousness is; when we thoroughly understand normal nervous processes then we shall, perhaps, be more able to say what convulsions mean and how, where, and why, they arise.

If our supposition that there is a specific center that controls convulsive phenomena is correct; if this center exists in all persons and is capable of being excited into activity at any time that the stimulus is sufficiently severe or long-continued, it demonstrates to us how little advance we have made in the treatment of established epilepsy. It shows us how truly unscientific the present method is for we are groping in the dark hoping at the same time to find a something that will obliterate the tendency to convulsive manifestations. We dull the activity of the brain with opiates, bromides, and other drugs, but disappointment greets us in nearly every instance. It is impossible to treat an individual rationally while the real, existing cause eludes us. However, it must be confessed that in the present state of our knowledge it is the only course that we can pursue. The fact that the ultimate cause is difficult to discover should not deter us in our search for the underlying principle concerned in the production of that most terrible and pathetic condition, epilepsy. Laboratory and clinical work should be combined in order to facilitate the discovery of the true cause. It is a fact that the study of nervous diseases is less advanced than any other branch of medical science. The general practitioner naturally looks up to the medical men that have made this type of diseases their life work, for information. More research work

should be done at institutions where clinical and laboratory material is never wanting. We see a case presenting peculiar symptoms during life. Why not at least try to discover the cause on the post-mortem table?

## DISCUSSION

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Dr. Wilmarth: I think those of us who have been in the work some years realize what a hopeless task we have had in the study of this malady. We have never been able, I think no one has ever been able, to locate it as a distinct disease. The hope of epilepsy lies in the pathological laboratory associated with clinical observation. Many years ago an effort was made to establish a regular bureau of observation, which was to collect material from the different institutions, but the bureau did not materialize. Such as is done is now principally done by officers in institutions whose numerous other duties constantly interfere with their work. It seems as though every state could hire someone to do this work and give him an adequate salary. I doubt the expediency of a central bureau for this work. I doubt the advisability of any one man pursuing it. If four or five institutions could have officers who could get together and compare their work, I cannot help thinking that in a few years we should be in much better position to combat this dread disease, having a more thorough knowledge of its origin. Instead of spending time in alleviating, we might perfect more recoveries.

Dr. Smith: It would almost seem that any state that can positively number among its inhabitants one thousand epileptics could at least furnish pathological insight into the cause of that epilepsy. I wish this conference could furnish some influence that would enable us to bring that about in the states where at least that number occur.

## RELATION OF FEEBLE-MINDEDNESS TO DISEASE

BY A. R. T. WYLIE, M. D., FARIBAULT, MINN.

Mental defect modifies the relativity of the individual in all its modes more prominently perhaps in the psychological, sociological and economical spheres but also in the pathological. And it is this last particularly to which we wish to call attention.

Feeble-mindedness is a morbid condition of the mind which renders it impossible to bring up a child to respond to his surroundings like a child of his own age in his own community. This condition is due to the imperfect or arrested development of the neurons of the cerebral cortex. They are fewer in number than in the normal brain and are irregularly arranged. They are imperfectly developed, as shown by the large nucleus and eccentric nucleolus of the pyramidal cells. These are often globular or pyraform in shape with the angles wanting. There are fewer dendrite and gemmules. There are also found cells like neuroblasts. There is pigmentation in the deep pyramidal layer, and the tangential nerve fibres are less in number. These conditions have been found most pronounced in the pre-frontal and the parietal association centers of Flechsig. Thus we have a basis and in a way an explanation of the chief characteristics of feeble-mindedness, dullness of sensation, deficiency of attention and perception; limited association, narrowness of mental fields, lack of judgment and deficiency of initiative and will power. These all modify to a more or less extent the course and progress of disease processes and our care and treatment in the handling of them.

The sense dullness of mental deficiency delays our recognition of disease processes so that we often do not recognize our cases until they are much farther advanced than with normal people. H. Y., an epileptic with spastic diplegia and choreoform motion, inmate of our institution for ten years, had been of good health. On October 30, 1908, she was indisposed and re-

fused her meals but was sitting up. The next day she was put to bed against her will and at 3, p. m. showed symptoms of collapse. Her temperature was 104.8 degrees; pulse, 120, but very weak at radials; respiration, 30. Strychnine and adrenalin were administered and condition improved. There was myosis but pupils responded to light. Conjunctiva had been noticed to have been rather yellowish for some time. Large mucous rales throughout the lungs. Diarrhoea with some blood. Abdomen not distended, not tender. Liver retracted. Bloody discharge from vagina. Skin muddy. On November 1st, was somewhat improved. Replied to "good morning". Temperature, 100.6 degrees; pulse, 120; respiration, 30. Coma returned and continued to the end. Conjunctiva white. Mucous and bloody stools. November 2, temperature, 101; pulse, 130; stools, same. Died at 11:20, p. m. Temperature, 103.8; pulse, 148 and respiration 44. At autopsy a few tubercles and some adhesion were found at apex of left lung. Liver hobnail and about one-half normal size. Left lobe very small. Microscopic examination showed cirrhosis and fatty degeneration. Diagnosis was given as cirrhosis of the liver with hepatic insufficiency.

Sometimes a disease may exist without symptoms, as Sollier. I think it is, mentions a case of gangrene of the lung which came to autopsy without a suspicion that such a condition existed. And no doubt some of our cases of sudden deaths belong here. Dull sensation, it seems to me, accounts for the common absence of cough in our cases of pulmonary tuberculosis. Physical signs show that there is plenty of secretions in the bronchia to call forth the reflex. So the sensitivity of the bronchial mucous membrane must be so dulled that the initiatory irritation never arises. Perhaps the effect of dulled sensibility is more noticeable in the realm of the pain sense. How often is our attention first called to a decayed tooth when it is badly ulcerated and the face swollen. Again we oftentimes do not make use of a local anaesthetic (cocaine) since the trouble attending its use is greater than the pain from which we would wish to protect our patient. Ingrowing toenails have been removed without a wince on the part of the patient. This has its good side. Our patients

are not in as great discomfort in their sicknesses. One of my patients in the second stage of smallpox was so sore that the only comfortable position she could get into was on her hands and knees, yet she was playing games with one of her fellow sufferers. Many of our children even seem to enjoy poor health. One of my girls was much worried for fear she would not have smallpox when many of her friends were thus afflicted. Her hopes were finally realized and from the extent of the disease she must have been very well satisfied. This sense dullness leads to the enjoyment of strong sensations. I have one instance in which this seemed to have a stimulating psychological effect. One boy who was a good worker but did not or would not talk, came to the dentist chair one afternoon when I operated successfully with the assistance of half a dozen others and a bottle of chloroform. For a year afterwards he never would stay within speaking distance of me, then, his fears being overcome somewhat, he always saluted me as often as he met me with a hearty "Good morning, Doctor".

Defective vision is fairly common among our children, but correction of refractive errors does not seem to bring much benefit except among the higher-grade pupils. One boy, however, who was very near-sighted, after having a double tenotomy operation, was fitted with a -15.00 sphere. This has enabled him to learn to read. The dullness and abnormalities of taste are especially noticeable among the lower grades and particularly the desirability of a strong sensation. How else can we account for the eating of and even the preference for garbage, dirt, dust, rags, stockings and skatophagia. Some of our children have passed pieces of stockings and one a bandage a yard long. One of our eastern institutions has a small snake that one of the children passed. One of our children seized a small dish of pins and swallowed a number of them. After a liberal diet of potatoes thirteen were recovered. Bolting of food is the rule among the lower grades so that ground food is necessary in order to nourish them and protect them from danger. Some years ago one of the custodial girls was thought to have had a spasm at the breakfast table. She was removed and a physician called, but

before he reached her she was dead. At autopsy an insufficiently cooked half apricot was found securely wedged in her glottis. She had died of strangulation. As also showing the lack of the feeling of discomfort, it might be well to tell of a boy who was detailed to help the storekeeper in issuing weekly supplies. He came to the dispensary one noon complaining of something in his throat. On inquiry it was found that this condition had existed for twenty-four hours and he had been unable to retain even water. It was found to be a piece of meat lodged part way down his gullet. This was dislodged by means of a stomach tube. In this connection and as bearing on the nature of milk as a food it might be well to relate another history. A boy was sent to the hospital with the symptoms of acute indigestion. He did not respond to treatment but the condition kept up. Eventually he threw up a white mass having the marks of a cast of the pylorus. On examination this was found to consist of milk curd with starch granules. The boy promptly recovered.

Defective nutrition and difficulty of cleaning are especially conducive to the early and quick decay of the teeth of the feeble-minded. The quickness of decay is especially noticeable, a month often showing marked changes in this respect. This, in turn, interferes with the nutrition of the child and a "vicious circle" is established. Peculiarities of appetite are often noticed, some children limiting themselves to one or two articles of diet to the exclusion of all others. A boy five years old was brought to our institution recently in a markedly rachitic condition, whose diet had consisted solely of oatmeal and milk because he would not take anything else. Continual perseverance on the part of his attendant has succeeded in getting him to take everything that our bill of fare affords. Some years ago a child—a spastic paralytic—was brought to us who refused to take anything. Whenever food was presented to him he would shut his jaws tightly and keep them thus. Various "stunts" on the part of his nurse would finally get him to take something. This peculiarity had existed during his whole life and persisted to the end.

Infectious diseases play a prominent part in the medical history of our institution. This is accounted for, no doubt, by

the fact that the immunity of our children is low and when infection is once brought in it is especially hard to get rid of it. Diphtheria has been with us for some years, a case cropping out now and then, but fortunately it has been of rather low virulence. Our method of fighting it has been of taking cultures. Of 400 cultures taken in our institution at various times about ten per cent. were positive. The figure usually given for normal people is eight-tenths of one per cent. One girl was kept in quarantine for six months waiting for a negative culture. She at no time had clinical diphtheria. Tuberculosis is a common cause of death in our institution and seems to be increasing as the years go on. Of the 572 deaths which we have had since the institution began, in 178, or 31.1 per cent, tuberculosis figured as a cause. Computing by decades, we find 23.4 per cent. in the first, 24.5 per cent. in the second and 38.8 per cent. in the third. Physical signs as found on examination also seem to indicate a high percentage of infected cases. We are hoping that with improvement in the method of diagnosis we may be able to determine this more exactly. As pneumonia is the old man's friend so tuberculosis seems to be the friend of the mental defective.

One might think that in a group of persons showing as many irregularities of development or stigmata of degeneracy as the mental defectives that malignant tumors would be more common especially if the Cönnheim hypothesis of misplaced embryonic cells were true. But the reverse seems to be the case. In some two thousand cases we have found malignant tumor only five times, twice involving the stomach, once the head of the pancreas, once the uterus and once the face. One of these was admitted with the condition far advanced and two of the cases were epileptics. The fact that the majority of our children die before they reach the age when cancer is most common, tends to make this condition rare. We have found that 78.9 per cent. of our deaths have occurred before the thirtieth year. Seventy per cent. before 25.

Many of the children, of course, do not talk and if the frenum of the tongue is short, the parents think this backward condition is due to the tongue tie. I have been asked to remedy

this condition several times but have never noticed any improvement in speech as a result.

The deficiencies in association, perception and memory render the subjective symptoms unreliable when present and in many cases they do not exist. So that we have to depend for diagnosis almost entirely upon objective symptoms. This has led one physician to remark that a course in veterinary medicine would be excellent training for this work but one of my medical friends claims that this is an advantage since one is not misled by the unreliable statements of supposedly normal people.





## SPECIAL CLASSES IN THE CLEVELAND SCHOOLS

BY MISS GRACE M. BOEHME, ROCHESTER, N. Y.

The great need and value of the special classes for defectives is becoming more recognized each year, but in spite of the evident proof of their success we constantly hear the questions:

1. Are the special classes, which necessitate more expensive teachers and equipment, really worth while?

2. Do not the majority of really defective children eventually become state charges?

3. If not placed in an institution do they not marry and continue to fill our classes?

4. Is not the unfortunate child stigmatized by placing him in a special class and how can the objections raised by the parents be overcome?

In answering the above questions let me state: We have maintained the special classes in our schools for the last four years and our observations are based entirely upon the result of our experience. I would meet the questions of the special classes being worth while in the following way which I think will prove satisfactory to the parent or tax-payer who sees in the welfare of the normal child the value of efficiency of the future citizen. The effect of the subnormal child over an entire grade of normal children is appalling, for, with the normal child's keen sense of imitation, we find indescribable harm done and habits formed which oftentimes mar the future life of the bright child. Often a defective child will pollute an entire class by his licentiousness. Often the defective child so disturbs the discipline of the grade as to make valuable study impossible. If the teacher is over-conscientious, many times the normal child will be slighted and neglected because of special help which the teacher feels must be given to the atypical child; and, again, if the teacher has not the interest of the child at heart it is often allowed to sit idle for hours at a time getting more and more dis-

couraged each day until it welcomes the time when it can stop school and go to work. The effect of such a child on the teacher's work during the year is demoralizing in every sense of the word. Thus, not considering the welfare of the defective child, we find that for the sake of the normal children and their teacher the removal of the subnormal from their midst is practically a necessity.

In answering the second question with regard to custodial care, we say it is our greatest aim to place these children in institutions where they may have permanent custodial care. We appreciate fully the inheritance these children always give their offsprings and if these special classes were to be used only as "clearing houses" they would more than pay for themselves each year by the removal of several cases a year who would not only eventually end in the almshouse or institution but take their offspring with them, if left at large. It may be of interest to note here that each year during the past four years, from four to six children have been placed in institutions through our special classes. Of course there are many who can never and should never be placed in an institution. Many of these are the children of illiterate parents—hard-working but ignorant people. Doubtless their fathers could not read before them and the problem is still harder for the children. But by our special methods used we do teach them to read and "count their letters" independently, and enough arithmetic to get along in their small world. What are the methods used which bring success after seven and eight years of apparent failure? Why, industrial work! It has been said that movement is the first manifestation of life—not only that but it is so closely associated that in some occult way it carries with it a developing power capable of expanding the individual towards a broader life. Hence, much is made of hand-training and allied means of education, in this work. Let the child who has always failed in his class see something in his hands which he is doing and accomplishing and enjoys and the very fact that he has concentrated his mind half an hour on an interesting model which has made him happy will

send him to his seat with more of a determination to conquer his spelling or arithmetic or reading.

Six boys left one class last year who had been made self-supporting; three of these boys had remained in school a year and a half past the regulation age for leaving school. It is true, that some of these boys have from four to six "jobs" in a week but they will become adjusted soon and prove worthy workmen.

We can only hope their offspring will be one step in advance of their own condition.

That the supposed stigma is really not so marked as one might imagine, the following incident will show: A boy of eleven or twelve, a child from a well-to-do family, who was in one of the regular grades came running up to one of the special teachers one day and in great glee said, "Oh Miss B., my teacher said, maybe I can go in your room." The teacher doubtless had meant to infer that the child would be punished if his lessons were not improved and little did she know that her method of punishment had been an inspiration to the child, but through an entirely different channel. The children from the special grade are frequently allowed to exhibit their work before the regular grades, until now, when a window-box, basket or rug is desired, it is customary to ask the special grade to make it. Normal children are often, as an honor privilege, allowed to visit the children in the special grade. Objections from the parents, furthermore, have always been overcome in a week or two by the happiness of the child and his changed attitude towards school, but here again the success remains with the special teacher who must have a superabundance of patience, skill, tact and resourcefulness for which she must be paid a better salary.

It may be of interest to cite the progress of one or two cases that have been with us several years. One boy, Edward G., admitted in September, 1905, nine years old, had infantile paralysis and stammer. He seemed a hopeless case but because of good home conditions and unusual devotion it was impossible to consider him as an institution case. He could not even hold the scissors, could not read a word and knew no arithmetic. This is his fourth year and he is caning a chair; he can tap his shoes

and makes a good basket. He knows his multiplication table to the sevens and reads and spells in the third reader. He can do marketing for his sister and although his speech is far from perfect it is much improved.

Each child has made marked progress in the special class. Some will never progress in some branches but the general improvement is very noticeable. Each child has to pass a rigid medical inspection before being entered and only recently a child who at first sight was thought to be an imbecile by the medical inspector was found, on examination, to be suffering from choreic disturbances and poor eyesight, which he now believes to be covering a fairly good brain. This discovery on entrance gives new impetus to do more for what seemed on the surface to be a hopeless case.

In our laboratory we use a combination of tests by Simon, Binet, De Sanctis and Nosworthy, together with some interesting instrumental tests used by Dr. Henry H. Goddard in the laboratory of physiological research in the Vineland, N. J. training school. We endeavor to separate the defectives from the backward pupils, thus making our aim entirely different in the backward classes. We recognize the fact that once defective, always defective, nevertheless our aim is to develop every possible faculty and make the unfortunate child happy.

#### DISCUSSION

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Miss Gundry: Dr. Bernstein and I had a discussion of this subject a few years ago, in which I appeared to disagree with him as to the value of manual training. I wanted, really, to agree with him thoroughly, but, being in private work, I could hardly do it. But today, I must say, I heartily indorse the manual training, and the longer I am in the work the less I think of learning to read and write, alone.

Possibly I stand alone in that, as regards the private schools. I think I do. I have come to it by seeing the practical side of the

work done in the other institutions, and to-day we do very much more of the manual in our school, than the other work.

Within the past year we have had four teachers with us from the public schools of Washington. We have not had room to keep them all the time, or we should be very glad to do it. Our house is not very big, and we are in rather a crowded condition, but we have been glad to have them and will always be glad to have them if they will come.

Dr. Bock: From my examination of children in Rochester I find 100 per cent. of them need something done physically. That is a good many, but there is not a child in any city that does not need tooth work, in the first place, and there is not anything that affects a child more than the faulty nutrition that comes with bad teeth. About 80 per cent. have bad noses, and bad ears and bad eyes, and in some sections of the city there are at least 25 or 30 per cent. with very irritating skin diseases. We are trying to educate the people up to the feeling that they must look after these things, if they really love their children. I do not know of any mother who does not want her child to be as bright as anybody else's. We tell the people that if Dr. So-and-So says that the child's first teeth do not need attention to go to some other dentist; and we are forcing the physicians to realize the importance of the physical well-being of the child, on the ground that we believe no child can be mentally efficient if it is physically below par.

Dr. Roemer: Our work in Utica, the medical inspection of schools, is only of recent origin, and we have just got launched on it, commencing in June last. Our work at first, of course, was to preclude children who had contagious diseases, and next year we expect to start in and take up the mentally defectives and the physically defectives, and do some work along that line, and possibly segregate some of these children and have special classes for them. We have made a start already in that direction. The superintendent of schools has asked the teachers to point out to the examining physician any children whom they think defective mentally, and already some 500 children have been pointed out by the teachers to the physicians along that line. We ex-

pect to make a special examination of these children, and, if we can induce the school board to do so, we will have special classes for these children, I hope, next year.



## SPECIAL CLASSES FOR MENTALLY DEFECTIVE CHILDREN IN THE BOSTON PUBLIC SCHOOLS

BY DAVID F. LINCOLN, M. D., BOSTON, MASS.

The credit for establishing these classes is due to Mr. Seaver, lately superintendent of Boston schools. In the fall of 1898 he secured the services of a most skillful special teacher, trained in the methods of the school at Barre, to whom he submitted a list of several hundred cases of backwardness. From these, after two or three months of close examination, she selected fifteen of the most urgent cases to form a class of which she assumed the charge in January, 1899. By gradual growth the number of classes has now risen to seven. No new class has been formed in the last four years, although there is no lack of material. One class is composed entirely of girls; the others are mixed.

The two or three classes first formed were decidedly weighted down by low-grade cases, evidently fit candidates for asylums, gladly parted with by the grade teachers. Twenty-four pupils have been sent to Waverley from the special classes; they have thus served a purpose as a kind of clearing-house for the asylum. Recognition should be paid to the intelligent work and influence brought to bear by the teachers upon the parents of so many defective children in inducing them to allow their offspring to be thus cared for. The point of view, however, has somewhat changed in later years. It is now held that the time of highly trained teachers ought not to be so largely given to the care of imbeciles or semi-idiot, and preference is given to children who give promise of being able to enter regular classes after training.

All the teachers so far have been either professional instructors at such institutions as Barre, or the Seguin School or else have been sent at the expense of the school board to a residence at Elwyn, Pa. The controlling idea of Mr. Seaver was that a

good teacher is the one essential to a good school. The greatest liberty of action has been given to these teachers. Their work was planned and their programmes arranged by themselves. A good mutual understanding existed among them from the outset, and the work in the different classes is substantially alike. This similarity is not due to centralized control or oversight, for such does not exist in any hampering way.

Manual training in many forms is a leading feature, and to it is devoted the closing hour of the session. The schools hold from nine to one o'clock, with half an hour for recess.

Admissions and discharges are controlled by a salaried medical examiner, Dr. Arthur Jelly, a well-known specialist. His decisions are subject to the approval of one of the assistant superintendents of schools. The examinations for admission are made in the most thorough manner, the parents and teacher being consulted in order to make as thorough a diagnosis as possible.

The statistics which follow are approximately correct, but are open to revision:

In all, 264 pupils appear to have been taught; 24 of these were sent to Waverley; 5 died, 15 were removed to private schools, 36 re-entered our regular public schools, 97 are still enrolled in the special classes, and 87 have been dismissed as having reached the age-limit of sixteen, or on account of illness, removal, etc. Of the 36 sent back to regular school work, probably one-half are satisfactory pupils, mostly in the lower grades (first to fourth) and receiving promotion in the usual way. Not enough time has passed to determine their capacity for higher grade work. Some have been placed in ungraded or "coaching" classes, merely because their age disqualified them for primary grades, and have done well there. Others have been so placed because the pride of the parents forbade the children remaining in a "dummy class"; such cases are apt to do nothing but sit through the term. Of the 87 dismissed, about 17 are known to be earning wages from a very trifling amount up to \$3.50 per week. None are independent, but some might be called self-supporting under direction. Nearly the same number of girls are useful at home, much as girls of their age usually are. About 19 or 20 are known as a menace to society through vicious or criminal tendencies.



Not a few of the girls are of a class needing constant watching to keep them from going astray.

Friendly relations in the main exist between the special classes and other children in the same school buildings.

The teachers visit the families of their pupils, and in most cases find friendly support from the parents. Neighborhoods are gradually learning the truth about the special classes, and public sentiment is thus being educated.

In expressing their personal view of the results of their work, the teachers generally lay the most stress on the moral improvement of their pupils. Obedience, self-control, and attention have to be built up from the foundation; and in making these beginnings manual training is of priceless value.

The special classes are bringing about educational results in another and somewhat unexpected direction, that is, by bringing the question of feeble-mindedness in a practical and objective way to the notice of the teachers of our schools. The daily growth of appreciation in this quarter is laying the foundation for the wider usefulness of the classes.

As to the qualifications for teaching this class of children, it is held that good sense, sympathy, tact, motherliness and energy are of the first importance. Kindergarten methods, chiefly those involving manual work, should be understood. The teacher should also be a good instructor in primary grade work. But if she makes the three R's the basis of her work and is inclined to judge of progress by mere academic tests, she is not in a way to succeed. It is hard for many to appreciate this, but failure to grasp the point of view is likely to compromise the best efforts of school boards, and is perhaps already doing so in some places.

As regards improvements which might be made in the special classes, only one is here suggested. By increasing the number of the classes it will be possible to place two at a given point, which will make it possible to grade the two in a certain way. It is the general feeling of the teachers that a great lightening and improvement of the work could be accomplished by even this amount of grading.

The question of furnishing a cup of milk or cocoa at lunch time has been approached in the charitable way in two classes, and with good effects upon the mental attitude of the pupils.

In conclusion, a word more in regard to the selection of subjects of training in the special classes. It has been urged that the presence of imbecile pupils gives the classes a bad name with the public. This is true, but it is also true that exclusion may do injustice, and that there may be danger of turning such children loose in the streets. In selecting cases it is the medical examiner's principle to reject such as are likely to inflict moral injury on the more innocent, and to accept some even of the lower types of children, not with a view to a complete course of training, but with a view to leading to their transfer to Waverley.

Even though preference be given to those who seem likely to "get promoted," there are always some children, who however stupid, are deserving and trainable subjects.

NOTE: Although Dr. Lincoln does not mention it, the institution at Waverley was of great assistance to Mr. Seaver in the working up of the first special classes, and the teachers of those classes spent much time at Waverley.—The Editor.



## THE MULTIPLE SYSTEM OF INSTITUTION CONTROL

BY J. C. CARSON, M. D., SYRACUSE, N. Y.

Prior to the year 1889 the institutions of this state, both the hospitals for the insane and the charitable institutions, were governed by local boards. These local boards had practically the entire control of the institutions, financial and otherwise. There also existed during that period, prior to 1889, a State Board of Charities, a State Commissioner in Lunacy, a State Charities Aid Association, and each one of these different commissions and boards had something to do with the charitable institutions. The State Board of Charities inspected all of the hospitals for the insane and other charitable institutions, county poorhouses and poor matters generally, and made report to the legislature. They had not very much power. The State Commissioner in Lunacy visited the state hospitals for the insane and made a report to the legislature, but beyond that he had very little power. The State Charities Aid Association was an association of charitable people organized to look after different charitable work; they had really no power or government over institutions and have not, to-day, beyond simple reports and recommendations. There was a State Architect. At that time his work was mainly confined to the state capitol building. The institutions were required, or at least expected, to submit certain plans to him for his inspection and perhaps approval. There was also a State Civil Service Commission. They required that persons entering the service should comply with the rules adopted by the commission in regard to examinations as to whether they should be competitive or otherwise.

Institutions were supported by a mixed system; some, by direct appropriations from the state; others by partial state appropriations and charges upon the counties, and, I think, some by charges upon the counties entirely. In the year 1889, what proved to be a radical departure took place and that was in

the organization or the creation, rather, of the State Commission in Lunacy. That commission in the original act was not given much power but was required to make visits to the state hospitals for the insane, make recommendations, give them their supervision, advice, counsel, etc. The next year, 1890, the State Care Act was passed. That law relieved the counties of the care of the insane and placed them under the control of the State Commission in Lunacy and made the insane a charge upon the state. At the same time the Commission in Lunacy had its powers very much increased under this act in that the commissioners were authorized to make rules governing the management of the different institutions for the insane. About 1891, or 1892, the Commission in Lunacy had its powers still further extended by an act which became known as the Estimate Law which required all of the state hospitals for the insane to submit monthly estimates to the State Commission in Lunacy for revision and approval. I would say in this connection that the first year or two after the creation of the Commission in Lunacy, that commission assumed it had also control and direction over the institutions for the feeble-minded. The commission made a visit to the Syracuse institution in 1890, the year its powers were much increased and after certain rules governing state hospitals for the insane had been adopted. During this visit it very soon became apparent to me that the commissioners were not really making proper distinction between our institution for the feeble-minded and those for the insane and, inasmuch as I had read the law and felt that under it the Commission in Lunacy had no authority over institutions for the feeble-minded further than possible inspection, I raised the question of authority. The matter was appealed to the attorney-general who decided that the commission had no authority whatever over the management of institutions for the feeble-minded; that its powers were confined to the insane, although it did possess the right of inspection and could require some statistics furnished concerning the feeble-minded. The commission, however, was rather reluctant in giving up the idea of control over institutions for the feeble-minded but never made any attempt to gain such control until the

year 1894 when the estimate law affecting the charitable institutions was enacted. I would say in regard to that legislation, it was done in a manner known as "sneak legislation." The estimate law of 1894 was not heard of until after the two appropriation committees of the legislature had agreed upon their bill when at the last moment a rider was attached to it containing the present estimate law affecting the charitable institutions, and in that rider as it was originally drawn the Syracuse and Newark state institutions for the feeble-minded were required to make their estimates to the commission in Lunacy instead of to the comptroller's office as were the other institutions. Fortunately or unfortunately (I am not quite positive, to-day, which it was) at the eleventh hour I happened to hear of the legislation proposed and was able to get the commission in lunacy clause stricken out and our estimates required to be sent in with the others to the comptroller's office.

As a result of the assumption of authority of the Commission in Lunacy over the institutions for the feeble-minded, charitable persons became interested in the subject, the State Board of Charities began to look at it and likewise members of the State Charities Aid Association, etc., and when the constitutional convention of 1894 had finished its work, a clause was found injected into the constitution giving the State Commission in Lunacy authority over hospitals and institutions for the insane only, not including epileptics and idiots. It is now, therefore, unconstitutional for the Commission in Lunacy to exercise authority over institutions for the feeble-minded in this state. In the new constitution adopted, both the Commission in Lunacy and the State Board of Charities became constitutional officers; that is, neither the Commission in Lunacy nor the State Board of Charities can be legislated out of office and those commissioners must exist under our present constitution. The estimate law of 1894 required, as already stated, the state charitable institutions to send their estimates to the comptroller's office at Albany for his revision and approval. In 1901 the comptroller's office was relieved of that obligation and the office of fiscal supervisor was created. The fiscal supervisor, under the law, has

full financial control of the state charitable institutions except the insane. The law requires that each institution shall submit an itemized estimate to the fiscal supervisor on or before the fifteenth day of each month, in minute detail. Every item of expenditure must be included in that estimate for the next month. The fiscal supervisor has authority, under the law, to reduce that estimate in either quantity or in price and no money can be expended for any purpose without his approval except that each institution is allowed a contingent fund of \$250 per month for expenses which may be considered as emergencies, something which may arise and cannot be passed by without danger or loss to the institution or to its inmates. The estimate law as now construed by the fiscal supervisor not only requires the estimates to be rendered in minute detail but also elaborate explanations are required for the expenditure of nearly every item. There exists in connection with the fiscal supervisor's office at the present time several different boards of commissioners which have some control over or some connection with the state charitable institutions and which together make up what may be considered the "Multiple System".

First, the fiscal supervisor has simply financial control. He has no control over the management except as it affects expenses or the expenditure of money.

There is besides the State Board of Charities, the State Charities Aid Association, the New York State Civil Service Commission, the State Architect, a Classification Commission, a Building Improvement Commission and the local boards. The State Board of Charities consists of one member from each judicial district of the state, appointed by the governor and confirmed by the senate. To their credit I think I can say they have never been politicians. There have never been any appointments made, so far as I know, by any of the governors to that board for political reasons. I think I am right about that. At the present time the State Board of Charities has nothing to do with the care of the insane or the state hospitals for the insane, these being left entirely, under the constitution and the law, to the State Commission in Lunacy. While the State Board of Charities has

had its powers and duties somewhat enlarged, I must say, to the credit of its members, that they have never been very grasping in their desire for power and that they are at present free from politics and are not in very good favor with the politicians. I think the powers or duties of the State Charities Aid Association have not been very much changed since prior to 1889. This board has the power and right to visit and inspect institutions, to make recommendations and report. The New York State Civil Service Commission has no power over the management or the financial control of the institutions but it has much to do with persons employed at the institutions. In the first place it classifies the service. It says what position shall be a competitive one and what shall not be competitive and what position shall be exempt from examination. Also, at the present time, it is not possible to pay any bill for services without the certification of the State Civil Service Commission. The name of every officer and employe, as well as that of every man who comes into our institution to do plumbing, or fix our conductor pipes, or repair our roofs, has to go to the State Civil Service Commission to be certified before the bill can be paid for services rendered, if they are rendered upon the premises. Every pay roll must be submitted to the State Civil Service Commission for certification. The duties of the State Architect have been extended so that they cover all the institutions, hospitals for the insane, etc., where the services of an architect are needed. He makes the plans and, when special appropriations are made for buildings or improvements at the institutions, a copy of the estimate must be submitted in detail to him as well as to the fiscal supervisor and to the state comptroller. No money can be expended or work authorized under special appropriations, such as buildings and improvements, without the approval of the state architect as well as the fiscal supervisor. As to the Building Improvement Commission, I really do not know who comprise that commission. I know there is such a commission and I know we cannot go ahead and put up new buildings without receiving its approval.

The Classification Commission was created, I think, in either

1900, or 1901. That commission consists of the state comptroller and the president of the State Board of Charities. It has the power to classify the different positions in the institutions and fix the compensation of every one employed. It is required, under the present law, to meet once a year in the month of September and if any changes are desired in the salaries or wages of officers or employes of institutions the reasons for the changes must be submitted to that commission by resolution of the local boards, or managers. For instance, if we think that the wages of the cook are not high enough we have no power, neither the local board, the fiscal supervisor, the State Board of Charities, nor the superintendent, to change the rate of wages until it is authorized by the Classification Commission and the way to obtain that change is after the manner just described. Even then the changes adopted by the Classification Commission are ineffective until they receive the approval of the governor. The local boards of managers, at the present time, have power under the civil service law to appoint a superintendent and to make rules and regulations governing the institutions. If they possess any other power I do not know what it is. In connection with their work they are required to meet at least as often as once each month, inspect the institutions and make a report in writing, a copy of which is to be mailed to the governor, to the State Board of Charities, and to the fiscal supervisor. These monthly reports must be signed by each member of the board present at the meeting. They are also now required, under a recent law, to submit at the same time a copy of their minutes to the governor, the State Board of Charities, and the fiscal supervisor.

The last legislature passed a law requiring an inventory to be kept on a form which had the approval of the fiscal supervisor, showing where every chair, dish, bed, etc., is located in the institution, with some designating mark upon it, and that the board of managers, at their monthly meetings, shall condemn all property which has become useless and worthless and file their condemnation proceedings along with their monthly report to the fiscal supervisor.

In our monthly estimates the estimate covering the pay roll



comes first. We have to give the name of every person on the pay roll, the date when he was appointed, his position, rate, etc. That portion of the estimate is sent to the Civil Service Commission for certification and then it is passed on to the fiscal supervisor. The next estimate takes up provisions, the next household stores, etc., etc., etc. When compiled, these sheets comprise the month's estimate which is sent to the fiscal supervisor who gives it the attention of his office for the next week or two after its reception. A revision is made and returned each month to the institution. The estimate has to be made in triplicate, one copy going to the fiscal supervisor, one to the comptroller, and one is retained at the institution. Following that, after each month's bills are paid, a treasurer's report has to be made up and that must conform with the estimate; that is, nothing must appear on this treasurer's report in excess of anything included in the corresponding estimate. We can buy a less quantity or at a lower price and nothing will be said but there must be no excess either in quantity or in price. I must say, in credit to the department, that savings are sometimes effected; there is not any question about it. The department may occasionally have knowledge of articles which can be purchased at a lower price, or suggest something of as good quality at a lower price. Many times, however, when the lower price is suggested the articles are of an inferior quality. As an offset to savings effected and as a result of the system, there is not any question in my mind but that every institution is compelled to expend one or two thousand dollars a year extra. I know it costs us at least one thousand dollars a year because of the increased labor required. Before the system was adopted we had one bookkeeper and right away we had to appoint a storekeeper and another office helper in addition. I do not see how it is possible to carry out the new inventory law effectually without still additional help. Furthermore, the maintenance of the department in Albany now costs the state over \$30,000 per year or an overage of about \$2,000 for each institution required to submit estimates. We are supposed to get estimates from different firms.

A serious defect in our system here, as I view it, is that

while we recognize that there is perhaps need of some central control over our charitable institutions, yet, to give one person a financial control alone, that separates it from the work and purposes of the institution. There is danger that an officer having simply financial control may have little sympathy with the work and purposes of the institution and that is the reason why I think, as we have a state board of charities which has a certain amount of control and supervision over the institutions, the financial control should also be vested in the same board, or in someone working in harmony therewith, because we know that the State Board of Charities has sympathy and interest in our work and purposes. Otherwise it may be simply a matter of dollars and cents and to make a showing of a saving for the department. Another thing, the fiscal supervisor, in his financial authority over the charitable institutions, stands in a little different relation than does the Commission in Lunacy, from the fact that the commission has under its jurisdiction only hospitals for the insane, whereas the charitable institutions vary materially in their character.

Such is the system; if you are anxious to have it adopted in your states, send your legislators to the state of New York for plans and specifications.



## THE BOARD OF CONTROL SYSTEM

BY A. C. ROGERS, M. D., FARIBAULT, MINN.

In compliance with the request of the program committee, I will outline system of institution management as exemplified by the Minnesota State Board of Control with whose methods I am most familiar.

The spirit characterizing any particular governing body will depend largely upon the relative value placed by them upon good work and inexpensive work. It must be assumed, of course, that the individual members of any controlling board are selected with reference to their fitness for the position. If we do not assume that much it does not make very much difference what form the organization is, it will be a failure from the standpoint of the best interests of the institution, and of the tax payers. You can always calculate safely that if you have an irritating system it is because somewhere there has been some abuse at some time and it has led to an over-restriction by legislative action.

The western states, as a rule, have started with separate boards for the several institutions, as has been the case pretty generally throughout this country, and I think, so far as Minnesota is concerned, that the change to a central board was caused largely by the lack of uniformity in administrative methods in different institutions of a similar nature. The state authorities were astonished at the variation in prices of articles bought and the lack of uniformity generally in the systems adopted. It was not brought about by any special feeling that there was graft or dishonesty. So far as I have ever heard, Minnesota has been pretty free from anything of this kind. However, the time came when it was felt that the state of Minnesota was large enough to purchase its supplies at wholesale prices and under competitive bids. It had had a State Board of Charities which supervised institutions and did most excellent work, and this, of course, helped to enlighten the people in regard to the work of the state

institutions. The hospitals for insane had one common board. The School for the Deaf, the School for Blind, and the School for Feeble-Minded, had one common board. All of the other institutions had each its one board.

The law as finally passed and as since amended provides for three members, each serving for six years, one vacancy occurring every two years. The member whose term expires first is always chairman. These members are appointed by the governor with the consent of the senate. They are removable for cause. They cannot hold any other elective office, and must give their entire time to the work of the board. The board appoints its secretary, purchasing agent, all necessary office force, a state architect, and the superintendents and wardens of the institutions of which they have executive or financial control. There are three classes of institutions. Those over whom they have executive control are the three hospitals for the insane, the two asylums for chronic insane, the school for feeble-minded and colony for epileptics, the state prison, reformatory, and industrial school. In addition they have the financial control of the schools for deaf and blind and dependent children. They have charge of all the building construction of these institutions, the State University, which includes the agricultural college, and the five normal schools. They also have financial control of the sanitarium for tuberculosis.

There are separate boards for the schools for deaf and blind, and the school for dependent children, who have special responsibilities concerning salaries and wages.

The board has power to remove the executive officer of an institution for misconduct, incompetence, or neglect of duty upon preferring written charges and offering an opportunity to be heard. They have authority to secure and compel the attendance of witnesses and examine them under oath, and to order the production of all books and papers for examination. They have power to make all reasonable rules for the management of the institutions and the administration and discharge of inmates not otherwise provided for distinctly by statute. They control the purchases of all supplies. We make our estimates for supplies

quarterly, basing our prices upon any information we can obtain either by correspondence or prices prevailing in previous contracts. The estimates simply give the board an approximate idea of the expenses for the ensuing quarter. As soon as the estimates are received they are immediately scheduled and classified by the clerks and each schedule is sent to the people interested in that particular classification. Bids are received by the board. Many bids are received from outside the state. The board accepts, as a rule, the bid which is the cheapest for the entire schedule, but not necessarily. They reserve the right to reject any or all items. If the superintendents are careful to specify accurately what they wish, the board always take that into consideration, and as a rule seek to secure what is wanted, even though it may cost more. They advise with the superintendents, and if something can be obtained for a less price than the estimate that will serve the purpose, this is agreed to. All goods are to be shipped at the convenience of the institution and the superintendents are instructed to receive nothing that is not up to standard. The estimates for employes are made monthly and are based on a schedule fixed by the board.

We also have quarterly meetings of the board. All the superintendents of the state institutions are present and the first day is devoted to reading of papers and discussions upon same, and other general and scientific matters pertaining to work of the institutions. Through these meetings the board are kept in touch with what the superintendents consider especially essential to the welfare of the institutions. The second day is devoted to the examination of goods and samples that have been sent in with the bids for supplies, and as a rule the superintendents select a great many articles at this time. Then there are usually many articles which the board instructs the superintendents to buy, noting upon the approved estimate what are to be ordered under contracts by the board and what the superintendents are to purchase. This mutual understanding is, to my mind, one of the very best things in the system. The board and the superintendents are absolutely in touch all the time. The board give a good many contracts outside the state. All things being equal

the state gets the preference. There was considerable criticism of this for some time, but the public are satisfied that is the right and just thing to do and we do not hear anything about it any more.

Of course there might be trouble if the board were to become a political body, but the present law protects that pretty thoroughly. An ex-governor said at one time that if he was on a board of control and he wanted to own it politically he could do it. I have no doubt there are ways of doing it but with a strong public sentiment in support of a non-political board, it is going to be pretty hard work for one or two men to make a political machine of such a board, and it could not be done in Minnesota without a radical change in the law, and this would mean legislative discussion and such publicity that would make such a step impossible at present. There is a little tendency at times for unscrupulous contractors to work off a low grade of goods. That is the most serious thing we have to contend with. After the contract is made, once in a while some one ships an inferior article and if it comes in sealed packages of any kind a steward may not find it out until a good many weeks afterwards when the packages are opened; but of course the remedy is to reject where possible and when this is impossible, to notify the board, when that firm will find it pretty hard ever to get another contract.

We have no local treasurer. When the pay rolls are certified by the board of control they go directly to the state treasurer, and the state treasurer sends the checks by mail to the superintendent who simply distributes them. All the bills for supplies are checked up and vouchers made in the institution, signed and acknowledged by the contractors, approved by the steward and by the superintendent, transmitted to the Board of Control, and upon being certified by the Board of Control the abstract is sent directly to the state treasurer and the checks are mailed to the contractors.

In regard to the direct administration of the institutions, the board holds each executive entirely responsible and he must select his own helpers and control them.

## SYSTEM OF CASE RECORDING AT IOWA INSTITUTION FOR FEEBLE-MINDED

BY A. R. SCHIER, M. D., GLENWOOD, IOWA

There being no subject assigned him for presentation to this society, the writer has chosen to describe briefly the manner in which the case records of the Iowa Institution for Feeble-Minded Children are kept, trusting that the subject might prove of some interest. No doubt there are case-recording systems in use at other institutions much superior to ours but we believe there are, perhaps, certain good features to our method which could be used in other institutions of like character.

That one of the prime essentials of the successful business management of an institution is an accurate record of all its financial transactions will doubtless be granted by all. Recognizing the importance of such records they have been given the necessary consideration, but the same careful attention is not given, or at least has not until recently been given to the records of the cases entrusted to us for training and care. In some instances the case record was so brief as to make it practically useless; in others, the history was kept in such a manner as to make it difficult to find certain information concerning the case without considerable searching, entailing much time; again, in others, much of the history was valueless and in some there was much useless duplication. Some system to properly record and keep all information relating to our cases is required. By system is not meant the use of innumerable blanks, forms, cards and books, but less of them, doing away with much cumbersome and unnecessary work.

Like most institutions of its kind, the Iowa institution had a small beginning, reaching its present size only after years of growth. In the beginning, when there were enrolled as inmates but a handful of children, it was a comparatively easy task to keep a record of each child's history. As the population increased it became more difficult, with the result that where at first

one book sufficed for all the histories, more were needed and added, until there came a time when the histories were kept in a far from satisfactory manner, because of duplication and lack of unity. It was then that our present system was devised. It has now been in use a sufficient length of time to demonstrate that for our purpose it is in every respect suitable and satisfactory. We chose to call our system the card and folder system. Our case histories, the applications of those awaiting admission, the necessary index cards and blank forms are kept in a filing cabinet of the sectional kind which permits the addition of more sections when needed. This cabinet is kept in the office of our statistical clerk, who makes all entries and has charge of the histories. Practically all of the record is typewritten. The following cards and blanks are used:

#### CARDS—

Application—Two colors, white for first application, blue for re-admission. (Also used later as admission card for statistical purposes.)

Index—Index for case number and to record address of correspondent. (Also used later as dismissal card for statistical purposes.)

#### BLANK FORMS—

1. Application for admission containing family and previous history.
2. Description of child filled out at time of admission.
3. Supervisor's report.
4. Report of physical examination.
5. Report of epileptic convulsions.
6. Subsequent history.
7. School report.

Applications for admission to the institution are made on the blank form which we furnish upon request. When an application is received, the number of the application in the order of its receipt, the name of the applicant, residence, age, color, sex, birthplace, degree of education, nativity of parents, alleged cause of feeble-mindedness, age at which occurred, date of receipt of application and action as to admission, are entered on a card



(which we call "application card"). These cards are filed in a drawer labeled "Applications" in the order in which they are received and are divided by yearly guide cards. They are of two colors, white and blue; the white being used in first applications and the blue for applications for re-admission. The object of these cards is to provide, 1st, a brief abstract of history as given in the application, doing away with the necessity of referring to the application proper; 2nd, to enable us to readily ascertain the number of applications on file at any time; 3rd, from them we obtain data needed in making up certain statistical tables at the end of the year; 4th, at the time admission of the case is made, this card is transferred to another drawer, labeled "Admissions." By referring to the last card in the drawer we are able to tell at a glance the number admitted in a certain period, there being entered on it the number admitted so far in the period. The original applications are filed in the drawers alphabetically, one drawer for each letter.

When the child is brought to us we fill out at once the blank "description of child," which contains in addition to the name, residence and date of admission, a brief description of the child, such as color, sex, age, height, weight, color of complexion, eyes and hair; disposition, locomotion, speech, habits, general appearance, paralysis, degree of mental deficiency, educational attainments, opinion of superintendent as to prospects for improvement, the division to which assigned, and by whom brought. In the blank space on this form a photograph of the child taken a day or two after admission, is inserted. We require to be brought with every child a health certificate signed by the health officer of the district in which the case has been living, certifying that it has not been exposed to any infectious diseases for a period of seventeen days preceding the date of admission. We consider this requirement a fairly efficient safeguard against the introduction of infectious diseases there having been entered in the past five years only two cases which developed an infectious disease contracted before being brought to us. The case now receives a number which, together with the name, is entered on the upper left hand corner of a folder. This number and the name can easi-

ly be seen when the folders are filed in their drawers. The application, descriptive blank, letters, health certificate and any other papers so far received concerning the case are enclosed in the folder and it is filed in numerical order in a history drawer. These drawers hold three hundred folders each and are numbered 1, 300, 600, etc. The folders are separated by guide cards every twentieth number, making it possible to readily find any folder wanted.

An index card on which is entered the case number, name, date of admission and address of correspondent, is next filled out and is filed in one of the two drawers labeled male and female, depending on the sex of the case. These cards are arranged in alphabetical order and serve as an index for the case number. If we wish to find a certain history, we look for the child's index card learning therefrom its number, and then the folder containing the history is easily found, they being filed in numeral order. The application card, until now filed in the application drawer, is then transferred to the one labeled "Admission." These cards in the admission drawer are separated by yearly guide cards and are used as mentioned above to compile statistical tables. The child having been assigned to a department, the supervisor as soon as possible thereafter examines it for any bruises, cicatrices, eruptions, hernia and vermin. The results of this examination are reported on a blank, "supervisor's report" which is sent to the office at once and filed with the history. This is made and the report filed as soon as possible after admission, and has as its object to safeguard against complaints by parents and friends that the child received bruises, etc., after being entered at the institution.

As soon as the child becomes accustomed to its new surroundings, usually a day or two after admission or sooner in special cases, a thorough physical examination of the child is made by one of the physicians. The findings of this examination are recorded on the blank, "physical examination," under the headings: general appearance, respiratory system, circulatory system, genito-urinary system, and nervous system. This record is then filed in the history folder. In the case of epileptics we

record the convulsions on the blank, "report of convulsions" which is so arranged as to show separately the number of convulsions occurring during the day and those at night for every day in the month and is spaced for ten months. This record is kept in the history folder and entries are made on it in the office, the convulsions being reported by the attendants, teachers, and whoever may witness the attack. The number occurring during a month are totaled and are shown at the foot of the monthly column. At the end of the first half of the school year and at the close of the term, the teacher having the child in school, reports on the blank "school report" the progress made by the child in school. These reports are also filed in the history folder.

All notes pertaining to the case subsequent to admission, such as mental improvement, visits of relatives and friends, etc., are made on the blank "subsequent history." In the event of sickness necessitating the transfer of the child to our hospital for treatment, the bedside notes, temperature charts, laboratory report of examination of excretions, etc., are sent to the office and filed in the folder. When the child is dismissed from the institution the card until then used as an index for the case number is transferred to the card drawer labeled "Dismissals," after entering on it the date and cause of dismissal and the mental and physical condition at the time. The data on these cards are used in compiling statistical tables at the end of the fiscal year. The history folder, when dismissal is made, is transferred to a drawer labeled "Dismissals."

The advantages of our system may not be apparent from this brief description. It has, however, been highly satisfactory for our use and we find that our histories are complete, contain very little, if any, information not of value, are neat in appearance and easily kept, and above all we have together in one folder all information concerning the case which was received before and subsequent to admission.

Number	Name
Admitted	
Correspondent	
Dismissed	Mental Condition
	Physical Condition
Re-admitted	
Died	
	(OVER)

[illegible]

## Iowa Institution for Feeble-Minded Children.

No.....

App. No.....

## Application for Admission.

(Questions to which answers in writing, in the appropriate blank spaces are to be given by the parents, or next friend, of the child for whom application is made for admission to the IOWA INSTITUTION FOR FEEBLE-MINDED CHILDREN, and to be returned to Dr. Geo. Mogridge, Superintendent, Glenwood, Iowa, who will advise you concerning admission.)

## QUESTIONS.

(USE INK IN WRITING)

1. Full name of child .....
2. Residence of child? .....
3. Date of birth of child? ..... Religion? .....
4. Postoffice address of child? .....
5. In what State was child born? .....
6. What county does child now live in? .....
7. How long a resident of the county? .....
8. Give weight of child? ..... Height? .....
9. Are both parents living? .....
10. Give name of parents? .....
11. Give birthplace of each parent? .....
12. Where does each parent reside? .....
13. Give occupation of parents? .....
14. Give name of family physician? .....
15. When and in what manner was peculiarity first manifested? .....
16. Has the child had convulsions? .....
17. At what age were they first observed? .....
18. Is the child now epileptic? .....
19. Does it have spasms of any kind? ..... How often? .....
20. Has the child now or ever had Chorea or St. Vitus Dance? .....
21. Is the child now paralyzed or has it ever been paralyzed? .....
22. Is the child insane or ever been pronounced insane by a physician? .....
23. Is the child of average size for its age? .....
24. Is there any peculiarity in form or size of the head and face? .....
25. Is the child lame? .....
26. Can it walk without assistance? .....
27. Is there any deformity of the body? .....
28. Are there any imperfections in the organs of speech? .....
29. Does the child talk? .....
30. At What age did it begin to talk? .....
31. Is the child truthful? .....
32. Is the child inclined to run away? .....
33. Does the child appear to be improving now? .....
34. Does the child use profane language? .....
35. Does the child realize the difference between right and wrong? .....
36. Does the child feed itself? .....
37. Does it behave properly at the table? .....
38. Does it wash itself? .....
39. Are the teeth good? .....
40. State any special preference for food? ..... Size 8½x11

41. Does the child use tobacco?.....
  42. Can it dress and undress itself? .....
  43. What is the general health? .....
  44. Is the child nervous? .....
  45. Does it sleep well? .....
  46. Is it attentive to the calls of nature, or cleanly in its habits?.....
  47. Does it soil or wet day clothing?.....
  48. Does it soil or wet night clothing?.....
  49. State any peculiar habits it may possess?.....
  50. Does it hear well?.....
  51. Does it see well?.....
  52. Has it sore eyes now?.....
  53. Has it ever had sore eyes?.....
  54. Does it come when called?.....
  55. Is it obedient?.....
  56. Is it good tempered or otherwise?.....
  57. Is it cruel?.....
  58. Is it abusive to other children?.....
  59. What kind of punishment has been resorted to?.....
  60. Has the child manifested any mechanical talent?.....
  61. Can the child count?.....
  62. Is the memory good? .....
  63. Has it ever been in public school? If so, how long?.....
  64. Can the child add?..... Subtract?.....
  65. Can it read?..... Write?.....
  66. Can it recognize color?..... Sing? .....
  67. Can it do an errand? .....
  68. What kind of work can the child do?.....
  69. Is it fond of children?.....
  70. Is it fond of play?.....
  71. Does it hide, break or destroy things? .....
  72. How does it amuse itself?.....
  73. Is it given to self-abuse?.....
  74. Has it ever been in any other Institution?.....
  75. What cause has been ascribed for mental deficiency?.....
  76. What do you expect from a course of training?.....
  77. Who is legally responsible for the child's expenses? .....
  78. To whom should correspondence be addressed?.....
  79. Are parents well-to-do?..... Comfortable?..... Poor?.....
  - \*80. What is post office address of parent or guardian?.....
  81. What is the nearest telegraph office?.....
  82. In event of death, do you wish body buried in Institution Cemetery?....
  83. Was the father of the child ever in the United States Army or Navy?....
  84. Have we your permission to vaccinate the child at any time we may  
think it desirable to do so?.....
- This application must be signed by both parents, guardian, County At-  
torney, or Member of Board of County Supervisors.

SIGN HERE }

NOTE: Where clothing is furnished at the Institution, bills will be sent quarterly to the County Auditor, as provided by law.

Do not bring child to Institution until notified to do so by the Superintendent.

Remarks .....

Size 8½x11

It is desirable that the following questions should be answered by the family physician or some one able to answer the questions correctly:

1. Have there been any cases of insanity, epilepsy, idiocy, blindness, deafness, or infirmity of mind or body in the family of the father or mother, or any of his or her relations? If so state what they were:.....
2. Were the parents or grandparents related by blood, if so in what degree?
3. Is scrofula hereditary in the family? .....
4. Are parents or relatives consumptive?.....
5. How many children in the family? .....
6. How many older and how many younger than this child?.....
7. What was mother's age at birth of child?.....
8. What was father's age at birth of child?.....
9. Was there anything peculiar in the mental or bodily condition of any of the other children? .....
10. What was the mother's health before the birth of child?.....
11. Was she subject to any bodily injury, or disease, or any extraordinary emotions, such as fright, grief, etc.?.....
12. Was the child born in full period of gestation?.....
13. Were there any extraordinary circumstances attending upon the delivery? If so describe them.....
14. Were instruments used in the delivery?.....
15. Were both parents temperate at and before the birth of this child?.....
16. Were grandparents temperate?.....
17. Has the child had the Measles?.....
18. Has the child had Scarlet Fever?.....
19. Has the child had Whooping Cough?.....
20. Has the child been vaccinated?.....

(PHYSICIAN'S SIGNATURE).....Size 8½x11

## Iowa Institution for Feeble-Minded Children.

### Description of Child.

No. .... Name .....

Residence ..... County .....

Admitted .....19.... Readmitted .....

### (PHOTOGRAPH)

Color .....Sex.....Age.....Height...ft.....in. Weight.....lbs.

Complexion ..... Eyes..... Hair.....

Disposition ..... Locomotion .....

Speech ..... Habits .....

General Appearance .....

Paralysis .....

Degree of Mental Deficiency .....

Educational attainments .....

Opinion of Supt. ....

Assigned to Division .....Size 8½x11

## Iowa Institution for Feeble-Minded Children. Supervisor's Report.

On admission of .....

### MARKS ON PERSON.

1. Bruises .....

2. Cicatrices .....

3. Eruptions .....

Hernia .....

Loss of Members .....

Varicose Veins and Ulcers .....

VERMIN:—

Head ..... Axillae .....

Body ..... Pubes .....

Size 8½x11

Supervisor.

## Iowa Institution for Feeble-Minded Children. Physical Examination.

No. .... Name .....

General Appearance .....

Respiratory Organs .....

Circulatory Organs .....

Genito-Urinary Organs .....

Neurological Examination .....

Size 8½x11 ..... M. D.

## Iowa Institution for Feeble-Minded Children. Report of Convulsions.

No. .... Name .....

Months

DAY	D	N	D	N	D	N	D	N	D	N	D	N	D	N	D	N	D	N	D	N
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Size 8½x11



No. .... Name .....  
 April 14, 1907.—Has been doing exceptionally well since admission. Well behaved, contented, and takes considerable interest in his school work.  
 May 17, 1907.—Continues to make good headway in every respect. Has had no convulsions so far.  
 June 1st, 1907.—Visited by parents.  
 July 1st, 1907.—Is helping florist. Seems to enjoy working with flowers.  
 Sept. 1st, 1907.—Visited by sister.  
 Oct. 15th, 1907.—Is progressing nicely. Had two convulsions.  
 Size 8½x11

No.	Name
June, 1907.	—Improving a little in writing. Reads moderately well. Improved most in arithmetic. Fair in music. Good in gymnastics. Makes favorable effort. School No. 2. Teacher.
Jan., 1908.	—Writing greatly improved. Reads much better. He does good work in arith. Music good—has been put in singing class. Shows general improvement—the result of his effort. He has a pleasing attitude. Teacher.
June, 1908.	—Expresses himself in adequate words. Composition work is quite pleasing. Has imagination. Reads intelligently and recognizes words with facility. Writes very much better. Shows much interest in geography and does well. Work has been on Europe. Arithmetic not so improved as other branches, basis of work has been fractions. Spelling fourth grade words good. Good in gymnastics. Teacher.
Size	8½x11

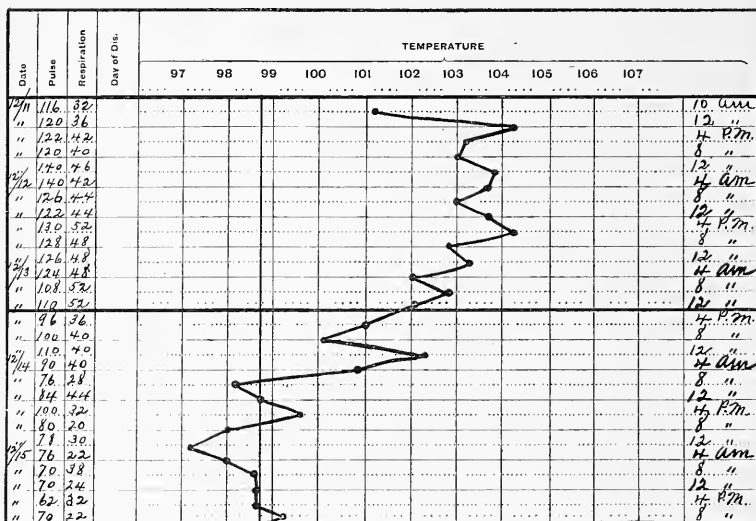
Name .....	Diagnosis .....
Admitted ..... 19...	Dismissed ..... 19...

[illegible]

Size 8½x11

## Chart of Temperature, Pulse, Respiration.

NAME..... DIAGNOSIS..... L.....



Size 8½x13

The following certificate must be signed by a member of the Board of Health for the district in which the child resides, and in case there are none of these infectious diseases named therein in the locality, the child can be admitted and this certificate must accompany the child when it is brought to the institution.

**DO NOT BRING THE CHILD**

if small pox, diphtheria, measles or scarlet fever is in the locality of the child's residence.  
GEO. MOGRIDGE, M. D., Superintendent.

**State of Iowa: Institution for Feeble-Minded Children.****Certificate of Health.**

I, ....., a Member of the Board of Health for the ..... of .....  
CITY OR TOWNSHIP  
County of ..... State of Iowa, do hereby certify that  
.....  
NAME OF CHILD

has not, for the period of seventeen days next preceding the date hereof, been exposed to any of the following named diseases:

**SMALL POX, DIPHTHERIA, SCARLET FEVER, MEASLES.**

I further certify that Small Pox, Diphtheria, Measles or Scarlet Fever is not prevalent in this district.

.....  
MEMBER OF BOARD OF HEALTH.

Dated this ..... day of ..... 19....

Size 8½x5½

## MODERN STUDIES IN HEREDITY

BY A. C. ROGERS, M. D., FARIBAULT, MINN.

By the announcement in 1890 of the laws of plant heredity as discovered by Mendel in 1866, a most wonderful impulse was given to the study of heredity in plant and animal life. Some of this may be had from the bibliography given by J. Arthur Thompson in his "Heredity", published in 1908, in which he lists over 700 contributions by various authors, and of which less than 200 were published prior to the year 1890; that is, about 73 per cent. of the entire list represents publications during the 19 years since the promulgation of the Mendelian laws.

In this country was organized about four years ago the American Breeders' Association, intended to bring together into one organization breeders of animals and plants, each of these two groups being represented by corresponding sections. At the present time the organization has a membership of nearly 1,000, comprising scientists, government experts, professors in agricultural colleges, experiment station workers, practical breeders of animals and plants and students interested in the scientific phases of the subjects under investigation. This membership is drawn not alone from our own states, territories, and dependencies—Alaska, Hawaii, Porto Rico, and the Philippines—but also from Cuba and Canada, while England, Scotland, Germany, France, Belgium, India, the Canaries, Mexico, Central America, Manchuria, Japan, New Zealand, and Cape Town, are represented. Many noted names appear in its roster, such as Hugo De Vries of Amsterdam, Holland, and William Bateson of Cambridge, England. Sir Francis Galton, of London, and Luther Burbank, of California, are at the head of its honorary list.

The president of the organization is the Hon. James Wilson, Secretary of Agriculture. Its secretary and one of the most enthusiastic promoters is Hon. W. M. Hays, Assistant Secretary

of Agriculture, and formerly connected with the Minnesota School of Agriculture. Something over fifty committees and sub-committees represent the different phases of the work, and, as Prof. Hays states, "are doing much to formulate plans for successfully breeding all our economic plants and animals, ranging from bacteria to Buffalo; from fishes to forest trees; from pansies with much perfume to potatoes resistant to disease; from wine grapes to wheat."

Of course the great incentives for a majority of the members and investigators are the practical and economic possibilities involved. The oft-quoted suggestion of the value of human effort that could induce two blades of grass to grow where one grew before, seems trivial and a weak figure of speech by the side of the simple matter of fact reports of the results actually realized by intelligent application of known laws that govern plant and animal breeding for economic purposes. For example: "An aggregate expenditure of \$80,000 is conservatively estimated to have yielded to the farmers \$80,000,000." as a result of the breeding enterprises conducted by the Ontario and Minnesota experiment stations alone.

How fascinating the idea of producing evolution of animal and vegetable life as desired! To be able at will, not only to reforest the globe and restore the fauna of the nearly extinct species, but to produce the individual characteristics desired. The A. B. A. does not confine its activities to economic problems. A very important committee, containing among others the names of De Vries, Bateson, and Davenport (from whom we had hoped to hear at the first of our program), gives its attention to special researches in heredity. One of the most recent committees is the one on eugenics, or the science of being well born, and its duties are specified as follows:

"1. To investigate and report on heredity in the human race.

2. To devise methods of recording the values of the blood of individuals, families, peoples, and races.

3. To emphasize the value of superior blood and the menace to society of inferior blood, and

4. To suggest methods of improving the heredity of the family, the people, or the race."

This committee contains, among others, the familiar names of Alexander Graham Bell, Chairman; Dr. David Starr Jordan, Dr. Chas. R. Henderson, and Hon. W. M. Hays. It is proposed that a group or committee be organized to investigate special fields, such as the aetiology of defectiveness and delinquency.

The methods of investigation must necessarily be radically different from those applied to lower animals and plants. In the latter, individuals may be selected with reference to specific characteristics bearing assumed dominant and recessive relations to each other, and by hybridizing determine, 1. The facts as to such dominance and recessiveness and then, 2. Breed for the permanence of the desired qualities.

In man the investigation must work backwards from the individual to his ancestors. Both physical and mental characteristics are to be studied to determine, 1. The groupings of co-ordinate qualities and, 2. The relative values of qualities, desirable and undesirable, as to dominance. In other words, while the Mendelian law suggests the method for studying data, in both cases, the investigator of human heredity must determine the causes by reasoning from known effects, while the plant and the animal breeder can use assumed causes for obtaining desired results, varying the selection of causes by the results actually obtained.

In any event, the first thing required is the collection of data concerning the individual possessing the characteristics, whose cause is to be determined, as, for instance, idiocy. In the same connection, the ancestral data for each case must be obtained, and the number of cases studied must be large, with a view of possible and probable disclosure of common factors of etiological value. So far the methods of collecting data for studying human heredity are not essentially affected by the knowledge of the Mendelian laws, but the latter will materially assist in analyzing the data obtained with reference to its etiological value. Because, 1. The investigator will constantly view the various characteristics observed with reference to their pos-

sible groupings into co-ordinates of dominants and recessives. 2. The whole field for observation will be enlarged by the knowledge that a sporadic case of idocy may be expected as a recessive exhibition, the cause of which, is remote and might otherwise be overlooked.

This latter fact is both a cause for pessimism and optimism. For the former because of the very obscurity of the possible aetiological factors and for the latter because a natural inference from the Mendelian laws is that parents are not always so much to blame for the natures of their children as we are usually accustomed to suppose.

Again the Mendelian laws are liable to be "over-worked," to explain manifestations that are due entirely to environment. The long process through which the human entity passes from the period of chromosome existence to the maturity of adult life, necessitates its subjection to innumerable influences, capable of producing profound impressions and the biologist must, after all, be one of the most important assistants in the study of human defectiveness.

The work, however, in which this association can be of most immediate service to the study referred to is the collection of data linking individual defectives to their ancestors by corresponding characteristics. The Department of Experimental Evolution of the Carnegie Institute of Washington has prepared for the section on heredity a set of blanks to be furnished investigators for recording facts as suggested above. Dr. Davenport, of Cold Spring Harbor, N. Y., is director of this section, and he has requested the organization of a committee to look after the collection of such data. The writer will be glad to receive the names of volunteers who are ready and willing to undertake such work.

As an illustration of some work done recently by Gertrude C. Davenport and Dr. C. B. Davenport, I will quote from their conclusions concerning prepotency in pigment colors. These conclusions are based upon the study of about 500 cases.

"The form of the hair, whether straight, wavy or curly is inherited as follows: Two straight-haired parents will have only

straight-haired children; if one of the parents has curly hair 'pure', the children will have curly (or wavy) hair; but if the wavy-haired parent form 'straight hair' germ cells, half of the children will have straight hair and half wavy hair. Wavy hair is a 'heterozygous' condition indicating that the individual is forming both 'straight-hair' and 'curly-hair' gametes.

"The color of the hair offers peculiar difficulties; first, because it grows darker with age (and after certain diseases) and because black hair pigment may obscure the presence of red. Two general series of color are recognizable: brown, due to melanic granular pigment, whose amount (density) is variable, and red, due to a fatty diffuse pigment, also variable in intensity. Both series start with colorless hair; the brown series passes through yellow and yellow brown, through the shades of brown to black; and the red series passes through clear red to dark red in which latter case melanic pigment is present. Despite the graded series of melanic pigments one can discover certain laws. First, two flaxen or yellow-haired parents can have children of that type only. In general the children may have hair as dark as the darker parent or lighter, but not darker. Two clear-red haired parents have only children of the same sort, but if either has the melanic pigment the red in the offspring may be entirely obscured by brown or black pigment. Conversely, two parents with black hair and having red-haired ancestry may have children with red hair, the red pigment being masked by the black.

"In all the foregoing cases we see that the children do not gain any character in a higher degree of development than their parents. If the character (brown eye or hair pigment, curliness) is absent in the parents, it must be absent in the children also.

"If this principle holds true generally, as seems to be the case, then the marriage of two persons both defective in the same character, will result in offspring all defective in the same character and in some cases probably more defective than the parents."



## THE SUMMER SCHOOL FOR TEACHERS OF BACK- WARD CHILDREN

BY E. R. JOHNSTONE, VINELAND, N. J.

The summer school had its origin in what seems to me a perfectly natural way. About ten years ago, after a child-study meeting in New Jersey, Dr. Goddard, Dr. Barnes, and I returned to Philadelphia together and we felt we had gotten so much more of good around the dinner table than we had from any of the addresses that it was too bad we could not have our conferences in that way. It happened that I was the only institutional man in the party. I said, "The dinner table is waiting at Vineland." The other two thought that it might be a good scheme; so we decided that in the spring we should invite five or six men interested in this work in New Jersey to come there informally, spend the morning talking about things, and sit around the table until train time. We did so and it has been done twice a year since. The number attending these meetings has grown until now we try very hard each time to limit it to twenty. About forty get invitations. These men are public school men largely. There are very few institution men in the "Feeble-Minded Club." After the third or fourth meeting the question of the special classes in the public schools kept coming to the front.

A special class was started in Providence several years ago, the first special class in this country. The work there was very severely criticised because one leading newspaper had published a cartoon labeled, "The Fool Class." Naturally all parents objected to sending their children to the Fool Class. New York, Boston, Philadelphia, and half-a-dozen other cities soon had special classes in their schools because the pressure brought to bear was so great that the school board and superintendents could not withstand it. Then came the demand for teachers. Most superintendents picked their best teachers—some, their worst



teachers—and gave them the special classes, but there were no teachers who were trained. Some of the school committees sent teachers to Waverley; some, to Elwyn; and I do not know but that other institutions had teachers sent to them to stay there a few days or a few weeks, as the matter was convenient for the institution. Some of the superintendents secured their teachers from the institutions. These teachers seemed to do much better than those who had had no training, but still the need was felt for some place where teachers could be trained.

I said that the old institutions that were established, were the ones that ought to do this. The old institutions would not. The old institution had its own problems, I think, just as difficult as building up a new institution. If the research work is to be done, it has to be done; that is all. If we really intend to do the work and are heartily in favor of it, we can do it if we set about it. I know that because the problem was put up to us squarely at Vine-land. The pressure became so great for trained teachers that we began asking why the larger institutions did not give such training and it all seemed to go back to the one thought that they were state institutions and that the state could not do it. I do not know why a state can't but it seems that it cannot. I am not criticising but it seems to me you can get around almost anything if you really want to. We were not a state institution, therefore it seemed to be up to us to do it. So we experimented with our own teachers seven years ago. Lectures were prepared on the whole subject. I want to give credit for that outline of lectures to Dr. Rogers and Dr. Wiley who had worked it out for the exposition at St. Louis. Our own teachers seemed to take the work very well. It helped them in the regular school work. As soon as you begin to tell someone else how to do a thing you learn how to do it yourself. When you do not, you think you know all about it. It helped all of us to do the work right, along right lines. Then we sent out a little circular, two by four, among the public school men in the eastern part of the country. The first year I think we had five students who came and kept their trunks packed the first week so that they might leave promptly if they did not like it.

I wonder if we who live in institutions ever take the trouble to find out what other people think about institutions? It is surprising to learn what the average intelligent man or woman who never has visited an institution believes it to be. Persons just below the average, a large number of persons among the voters, think that institutions are places of bars and bolts and gloom and sorrow and sadness. These summer-school teachers come to us, intelligent persons teaching children throughout the various cities of the country, and tell us that is the prevailing opinion. I think, for the sake of our institutions, the summer school is a good thing for that particular reason, so that we can send people back into the community to show what an institution is. Special classes are needed very badly. They are coming, whether we as institution people will help them or hinder them.

Just before I left Indiana for New Jersey I was preparing a paper for this association. I made some effort to find how many backward children there were in Indiana. From almost every superintendent I received the reply that they had none at all. About the third year in New Jersey I made a similar inquiry, writing to all the superintendents of schools in the state. All but three or four said they had none. I felt sure it was different and so began a campaign of publicity in New Jersey and about two years ago I sent another letter asking for such information for the State Teachers' Association in New Jersey. The number was appalling. I have heard various percentages given. Some say two per cent. of the children in the primary classes are backward; four, six, and twenty per cent. of all the children in the primary classes in the public schools need the attention of a specialist. I think we are prepared to say in this matter that you may cut the figures down all you please until you get to the basis that you are satisfied with and still there are enough that require the specialist's attention. That will not be given unless we shall give our support and help to have a better understanding of this whole problem.

In the general organization the summer school at Vineland is conducted in a manner very similar, I think, to many summer schools. It is probably conducted differently with regard to

everything else. Dr. Goddard has a course of lectures and much laboratory work that the teachers are required to do. They have one hour each day in the school rooms teaching various lines. There are two periods a week in which Mrs. Nash, the principal of the schools, teaches them the elements of various lines of industrial work that are valuable in teaching backward children. I myself give a lecture one hour each day. The principal gives a period each day where practical work of the school room is discussed and methods taken up. What we are after is to try to teach these folks what seems to be the best mode of procedure with backward children and in order to do that we try to get at the bottom of things; we try to forget all that we would be taught in the public schools and taught in the institutions and try to begin with the child and after all these years I am more than ever convinced that we must get down in our institutions to a little lower starting point before we are building our training on a solid foundation. Therefore, the very first thing we speak of to our teachers is the question of happiness. There is no institution man who is not sure that happiness is the ruling element in the work of his institution. Every one of us believes that our institution is the happiest place we know of but it can't be so unless we make a definite point of that thing, unless we require our teachers to say, not, "How can I best get my children to obey me or to understand me?" but, "How can I have these children as happy as they can be made in the day room, at the entertainments in the school-room and anywhere else they may be?" This has been a definite business of the institution and wherever it is made a definite business everything else is easy. It is not foolish to say that. You yourselves have use for nothing in this world but happiness. We measure everything by the amount of happiness we get out of it, or how much happiness we lose by doing it. You can demonstrate that you can have all the fun there is to be had and get your work done better.

The next thing, and this is important, is that we have no business to waste anybody's time, especially the time of the backward child who needs every minute he can get to do what he has to do. We have no business to try to teach anything that cannot

be used. With that thought in mind we say to these teachers, "Go into your schoolroom and see what you are doing." We say to institution people, "Go to your institution and see what is being done." Take geography. How much geography dare you teach a child and say that it will be useful to that child? What difference does it make to a feeble-minded child whether St. Paul is in Minneapolis or in Minnesota? I ask the question fairly. Of what use is it? What in the world is the use of any feeble-minded child in any institution knowing how to multiply two hundred and fifty-six by twenty-seven? Why does he want to add nineteen and thirteen? I am getting pretty close to the borderline because I should like to have you argue about it among yourselves. That question of "the thing that can be used" changes the whole course in public schools, and is changing the whole course in most advanced public schools for normal children, because the question of how much nonsense is being taught is being considered. You may take any primary textbook and you will find that many children are taught things in order that they may pass the examination and enter the high school; that they are there taught many things that they may pass the examination to enter college; that they are there taught things that they may pass the examination and in turn teach the children the same things that they in turn may pass the examinations—an endless, useless circle.

I wish to put a question flatly to you. Why is it right for the state to pay so much money for the care of feeble-minded children when the children in the public schools are not beginning to get what they ought to have? All public school buildings are crowded to the utmost capacity in the East, and the public is paying for their maintenance and growling about taxes and yet we are asking for more things—I do not say they are not necessary—but we are facing a pretty fair question when a taxpayer asks, "Why is it right that normal children should suffer and these children, who will never pay anything back to society, are getting what they need?" The stock argument is, "You will have more in the next generation if we do not care for them." Whether it is a question of economy to have an elaborate educational system, I

think is debatable. I do not know enough about it to say that it is debatable, but I think it is. That question is asked me so often that I believe that it was the germ from which the question of research sprang in our institution. I felt that I did not have enough sure-thing facts to say to these people who asked that question. I think it is up to the institution to do more things than train and care for these children. When the problem of education was before the Medical Men's Association it made me think that with all these as laboratory material we ought to announce ourselves (every institution in the country ought to announce itself) as a laboratory for the public schools of America.

The effect of having these teachers come to the institution is valuable to the institution itself. Institution men and women can see as they go about how neat it is, how well it is kept. We all think how well and how nice everything looks here and I think many of us are going home to kind of stir up things to see if we cannot improve. When a parent comes to see a child at the institution we take the child, comb its hair and put on its Sunday clothes before it goes down to that parent. We have no great objection to the parent's seeing the child in its every-day clothes but we want that parent to go away with the thought of the child as particularly clean and sweet—with a nice idea of the child. If your favorite cousin is coming to see you and you have children in the family, you are always glad to see that they have on their "best bib and tucker."

Several persons—ten, fifteen, twenty, thirty of them this year—come to the institution to live six weeks. They are going wherever they please in the institution, whenever they please. You cannot keep your good clothes on for six weeks straight. I know because we tried it the first year and it didn't work. The effect of the presence of these teachers has been to raise the whole standard of living in our institution. Everything must be open to the inspection of a critical inspector all the time for six weeks. We have, of course, to teach these people how to be reasonable in what they are looking for. The effect upon the institution has been fine and the effect on the superintendent I think has been the best of all. It has made me get out of the institution rut into

which the best of us may possibly get. A man who devotes all of his best time and energy to the running of a good-sized institution for five years needs to be shaken up a bit, and if he has done it for ten years he needs to be shaken up for a long time, and after fifteen years he needs to be—well—he needs a summer school. It is a good thing for the superintendent and whatever is good for the superintendent is good for the whole institution.

I ought not to say anything further. I just want to tell you of one little personal thing that this summer school has meant to me. I was unfortunate enough to be laid up this last spring. Right in the midst of my illness came a little package from New York, which contained this little pin which has a capital "V" and a little "do-daddle" made in lavender and white, the colors of the Training School, and on it printed, "We belong." This came from sixty school teachers who have been graduated from this institution. An organization grew up in our institution a few years ago which had a sign and a password. The secrets were so very carefully kept that I never found anyone who knew any of them, but the sign is a smile and the password is, "Do you belong?" When somebody draws a long face at our institution, some youngster is quite likely to step up and say, "Do you belong?" and smiles, and the most inveterate of scolds has to smile then.

#### DISCUSSION

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Dr. Smith: It seems to me that the simple item of benefit which the institution itself gets from these teachers coming in is worth all the wear and tear and mental anxiety which it costs. I do not believe there is any question about the benefit to the personnel of the institution. In our own institution this year we have given our teachers the privilege of remaining and conducting schools if they feel so inclined, with the idea that our children will be under a high order of mental discipline during the summer. Quite a large number of teachers preferred to remain,

so that we are quite in favor of abolishing vacation so far as the majority of children are concerned, vacation for this class usually meaning retrogression. I feel sure that we should be glad to adopt the policy that Mr. Johnstone has been carrying out so successfully, although it does not seem possible just at this time. We certainly feel friendly toward it, and are watching his efforts with great interest.

Dr. Rogers: I have always been heartily in sympathy with the summer-school idea, but it has seemed impossible to materialize it in the Minnesota institution simply because any spare time from routine work has to be devoted to the preparing of plans, looking after the construction of new buildings, and meeting the great demand for admission of additional cases. Nearly all the institutions which have a long waiting list and are growing rapidly find the time of the officials taken up in just that way. We wish it were not so. It has been with us, as with many others, a question, largely, of how to manage so that the defective children of the state may have the training we can give them here and to which they are entitled, without any time left in which to consider the training of teachers for public school work with special classes. Of course, if they were invited to attend I have no doubt that in Minnesota we could have a large class each summer after some preparatory work had been done. If a school of that kind were organized it would mean the devoting of a considerable time of a considerable number of persons to its maintenance. If our institution could once reach a fixed population it would be more simple. Another point which Mr. Johnstone mentioned appeals to me. The amount that is being expended for the defectives of our states is reaching enormous sums. The investments in public buildings and the running expense aggregate a sum that would never have been dreamed of as possible forty years ago, and yet the number that seem to require housing and training is still beyond the immediate possibility of institutions to reach. I believe that this work if investigation that he referred to is something that we should give attention to first of all, outside of our actual work. I think we should do everything we can to promote it; still, it is the very

question that does not, in advance of results, appeal to the average legislator. On the other hand, any question that can be shown to produce results does appeal to the average taxpayer. Whenever a sufficient work is done that points to a real knowledge of the cause of defectiveness there won't be any question about plenty of funds to carry on the work further. I believe if the legislators do not appropriate money there will be plenty from private sources to promote this work of investigation. In the meantime, I think all spare time and energy of institution officers should be devoted to this phase of study, and those who have the right temperament and ability for it should be encouraged to accept employment by the state for the purpose of prosecuting such studies and material furnished others outside who have the ability and desire to devote time to it, who can contribute to our knowledge of causation.

Prof. Johnstone: Dr. Rogers mentioned one thing, the fact that the officials of the institution are so busy. This is not a doctor's job but one for your teachers. An institution which has one good teacher in its school department can conduct this without interfering with anything else. We send our teachers away, all but the school principal. This is where people come, not to observe, but to do. Every institution sends its teachers away for a certain time during the summer. Therefore it has extra bedrooms and living rooms. The only person who needs to be taken into consideration seriously is the head of the school department. We give our institution head a little extra time during the school year. I myself give some time to the summer school work because I am very fond of talking. The need of a Dr. Goddard in every institution is very great.

Dr. Rogers: The need of a Dr. Goddard in every institution is indeed very great—this would go a long way toward developing a progressive summer school, but would be of greater value in developing original investigation.



# JOURNAL OF PSYCHO-ASTHENICS

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## MINUTES OF THE ASSOCIATION

The thirty-third annual session of the American Association for the Study of the Feeble-Minded met at Chippewa Falls, Wis., June 21st, 1909.

Members and guests present were as follows: Dr. and Mrs. A. W. Wilmarth and Dr. A. L. Beier, Chippewa Falls, Wis.; Dr. H. H. Goddard and Mr. and Mrs. E. R. Johnstone, Vineland, N. J.; Dr. E. J. Emerick, Columbus, Ohio; Dr. H. G. Hardt, Lincoln, Ill.; Dr. H. A. LaMoure and Miss Scott, Grafton, N. D.; Dr. and Mrs. Geo. S. Bliss, West Pownel, Me.; Dr. and

Mrs. W. H. C. Smith, Godfrey, Ill.; Dr. and Mrs. Chas. Bernstein, Rome, N. Y.; Dr. F. W. Keating, Lowings Mills, Md.; Dr. W. N. Bullard, Boston, Mass.; Dr. and Mrs. J. M. Murdoch, Polk, Penn.; Dr. I. W. Clark, Winfield, Kan.; Dr. and Mrs. George L. Wallace, Wrentham, Mass.; Dr. J. W. Hering, Westminster, Md.; Dr. C. S. Little, Laconia, N. H.; Dr. A. H. Beaton, Orillia, Ont.; Dr. and Mrs. Gorst, Mendota, Wis.; Misses M. T. McLean, Bertha Jensen, Grace Blalock, Etta Foulke, Dr. and Mrs. A. R. T. Wylie and Dr. A. C. Rogers, Faribault, Minn.

Dr. W. N. Bullard, president, called the association to order at 8 p. m. and the following persons were lected to membership:

Active—Dr. Everett Flood, Palmer, Massachusetts; Dr. F. C. Woodruff, Medical Lake, Wash.; Mr. H. E. Bickers, Salem, Ore.; Dr. Isabelle T. Smart, New York, N. Y.; Dr. David F. Weeks, Skillman, N. J.; Dr. Madeline Hallowell, Vineland, N. J.; Miss Elizabeth Farrell, New York City, N. Y.; Dr. I. W. Clark, Winfield, Kan.; Mr. L. E. Milligan, Boulder, Mont.; Dr. Wm. T. Shanahan, Sonyea, N. Y.

Associate—Dr. C. B. Davenport, Cold Spring Harbor, Long Island, N. Y.; C. B. Caldwell, Lincoln, Ill.

A letter of greeting was received from Dr. Fernald. Dr. Murdoch called attention to the illness of Dr. Barr, the announcement being received by the members with expressions of regret and sympathy.

The following committees were appointed by the chair: On organization, Dr. J. M. Murdoch, Dr. W. H. C. Smith, Prof. E. R. Johnstone. On time and place, Dr. H. H. Goddard, Dr. H. G. Hardt, Dr. E. J. Emerick. Auditing, Dr. J. M. Murdoch, Dr. Charles Bernstein, Dr. E. J. Emerick.

The President's address on The Correlation of the Sciences was then given. (P 3).

#### METHODS OF COMMITMENT

Dr. W. H. Smith asked for an expression of the views of the members of the association as to the **Best methods of commitment to institutions for the feeble-minded.** This led to a general discussion of the subject.

Dr. Smith (Illinois): In our own state we have not the power to prevent parents from taking children away from the institution, girls, particularly. We have no law which makes it possible for us to hold them if the legal caretakers wish to remove them. I should like to know if it is the consensus of opinion that commitment papers, as in the case of the insane, should be adopted for the feeble-minded.

Dr. Wilmarth (Wisconsin): So far as this state is concerned, a blank very similar in form to that used for the insane is used for commitment. The blanks that are used for the commitment of the insane are used by some judges. They change a few words so that the blank applies to a feeble-minded person instead of an insane one. As for its practicability, very few objections have arisen to it. There are cases where, if it is desirable to have children remain when parents desire them to be removed, we are able to hold them by the strength of this commitment. Some parents are entirely unfit to have the care of their children. When the law was established founding the institution, this form of commitment was adopted which enables us to hold children at the discretion of the management and the courts, exactly as is the case with the insane. We have been on our guard not to abuse the power vested in us. Where children are going to families able and willing to care for them as well as we do, we have been very careful not to interpose objections. In other cases we allow children to go home under a suitable bond from the parents or guardians that the conditions which we lay down for their care shall be observed. In the twelve years in which this law has been in force I have never been able to find one valid objection to it. I think the public has benefited very largely by the control of the children thus placed in our hands.

Professor Johnstone (New Jersey): I wonder if having a commitment blank might not result in the overcrowding of the institution by the judges who could commit? We in the East have long waiting lists of applicants. If these cases were sent to the institution would it not work a hardship? In our own state we have no commitment, but, once a child is admitted, it cannot

be withdrawn without going through due process. In our own particular case dismissal is only by the agreement of both the governor of the state and the superintendent of the institution. Thus far it has worked very well. There is some question as to how well our law would hold in case of habeas corpus proceedings.

Dr. Wilmarth: There is a clause in the Wisconsin law covering the insane that says each county shall have its quota. A while ago a county judge threatened to send us cases as he chose. I told him that the very existence, in the law, of the statement that a certain quota should not be overrun conveyed the idea that there should be a limit to the capacity of the institution. He did not send them so we never had occasion to bring the matter to a test.

Dr. Emerick (Ohio): In Ohio the feeble-minded are committed very much the same as the insane are committed to the state hospitals. Most of the time we have a waiting list. The commitment papers are sent to us and after examining the same the children are ordered in, in case we have room. If not, they are placed upon the waiting list and the judge is notified as soon as we have a vacancy. We have never had any trouble in having children forced upon us.

Dr. Bliss (Maine): In Massachusetts the judge of probate may commit a person to the school for feeble-minded by an order of commitment directed to the trustees of the school of whom there are seven, appointees of the governor of the state, accompanied by the certificate of a physician that such person is a proper subject for commitment to that institution. In the state of Maine the new law that they framed allows for the commitment of all cases by the judges of probate, and the overcrowding of the institution is provided for by allowing the trustees to discharge at discretion so that a case brought there without the consent of the trustees may be discharged.

Dr. Bullard (Massachusetts): I understand we have had a committee appointed by the governor to revise all the laws of the institutions under the care of the Board of Insanity. It applies in the case of epileptics and I believe also to the care of

feeble-minded. They are rather relaxing than increasing the guardianship of the institutions over their inmates. I personally opposed some of the plans thinking they were giving the patients too great freedom. The committee, composed of some of the ablest men in the state, has taken the view that it is not wise to hold patients too strongly. I understand that Dr. Fernald holds that view. It seems to me that the conditions vary so much with regard to different states that it would be a very doubtful matter for the association to lay down a law. Although it might be right in principle, there might be things which would prevent its being applicable to different states.

Dr. Hardt (Illinois): In Illinois we have no law of commitment, the matter resting with the board of trustees who have the power to accept or reject. We have felt the need of some law of commitment for a long time. Several very pathetic cases have come under observation. I have in mind a blind boy whose father came to the institution and took him out after being accepted. He would take the boy to the street corner, force him to beg pennies from the public and buy liquor with the money thus procured. He did this repeatedly until eventually the police arrested him. There was no way by which I could prevent the father from taking the child out. Finally we notified him that he would have to get an order from the county judge before we would permit the boy to go again and we are still holding him. Another case demonstrating the weakness of our law is that of a girl whose mother took her out on parole. The child fell into the hands of some unfriendly people, and was finally committed to an institution for the insane. The mother secured the release of the child from the insane asylum and had her returned to the Lincoln State Asylum for Feeble-Minded, but she had no more than arrived at the institution before the mother again made a request to remove her. We granted the release because we had no recourse. The child is now at large. I think these two cases illustrate the necessity of some method of detention by which unfit parents would be restrained from taking children from the institution, especially females.

Dr. Murdoch (Pennsylvania): In Pennsylvania, in the in-

stitution with which I am connected, we have two different forms of admission; one for those under twenty years of age and the other for those over twenty years of age—adults. Adults are committed on pursuing the same course of legal procedure as governs commitment to state hospitals for the insane and we have the same hold on the adults sent to us as they have on the persons committed to the hospital for the insane. The admission of children, however, is on the request of the parents, as a rule. When children are admitted on the request of parents we have no hold on them although we often wish we had the same control over them that we have over the adults. We also receive children committed to us by the juvenile courts in our state, gathered up by the probation officers—feeble-minded children who come to the attention of the probation officers of the probate court. Those children we do not release without an order from the court which committed them. I believe in giving the institution authority to hold any child.

Dr. La Moure (North Dakota): In North Dakota we have no commitment law. Patients are received voluntarily and they are taken out whenever parents wish it. Most of you will remember that I sent out a circular letter to superintendents of institutions for the feeble-minded asking opinions on the subject. Of the twenty-one answers which I received, fifteen were in favor of commitment, five were against it, and one did not make a pointed answer. I noticed that the five who did not recommend commitment were superintendents of institutions with a large waiting list. The general ignorance of the people on matters pertaining to the care of defectives is more marked throughout our state than in any other state with which I have come in contact. Because their children are good workers on the farm parents take them from the institution. We have cases similar to those mentioned by Dr. Hardt. I know of one case where a widowed mother is taking care of five feeble-minded children, herded out in the yard like cattle. I received applications for three of these, which I accepted, but they have never been brought to me. There are many cases similar to this one. Our

board recommended to the governor that legislation be taken authorizing commitments, but nothing was done.

Dr. Rogers (Minnesota): I presume that one of those five answers came from Minnesota, but Minnesota has never yet felt the necessity of a commitment law; first, because there is a long waiting list of from two to four hundred; and, again, because we have been able to make a pretty good bluff where we were satisfied the child should not be returned. I think there is little danger of restricting discharges too much if common sense is used although there is no doubt that sometimes even a feeble-minded child can be better taken care of in its own home than in a public institution. We have in Minnesota one source of information that is very useful. The State Board of Control has two agents, a man and a woman, who give their entire time to studying the conditions in the families where persons live who have been in state institutions for the insane and in the Minnesota School for Feeble-Minded and Colony for Epileptics. If we have any question about the desirability of returning any boy or girl to the home, we refer the matter to the state agents and on the first suitable occasion one of them visits the home, looks up conditions, and reports directly to us as superintendents. This works very nicely and enables us to act much more intelligently than we otherwise could. Yesterday, just before leaving home, a man came for his daughter. The latter had been running around the streets of one of the Twin Cities, and the parents were entirely unable to control her. They tried to keep her in a place where she could earn some money with the result that she would be found on the streets until 12 and 1 o'clock at night. She was admitted to our institution a number of months ago. Later, the parents insisted that she must be returned to the home, the object being apparently to place her out to earn money to help support the family. The parents appealed to the Board of Control, which, in cases of this kind, has invariably referred such matters to the superintendent for full data and his recommendation. My recommendation in this case was adverse and I happened to be in the board's office afterwards when the man and wife came to urge their plea for the removal of the daughter.

The mother became hysterical and threw herself on the floor, which in itself was a demonstration which satisfied the board that the mother would not be able to control her daughter. When the father came to the school last Sunday, I told him that his daughter could not be removed, but he urged the matter very persistently and asked if he could see her, saying he had a right to do that. I said, "Certainly, that will be all right." I instructed the officers to allow him to visit the daughter but to keep watch of them. He visited her an hour or so and as soon as he went away they locked the girl up, acting upon my orders, as there were symptoms upon her part of a plan to run away and meet the father outside. He came again and demanded the girl. The latter was kept locked up and the father informed that in order to get her it would be necessary to resort to habeas corpus proceedings. I think he would find it difficult to secure her custody, but if an order of the court does come, I shall, of course, be relieved of further responsibility. While I think commitment would remove a great deal of responsibility from the superintendent, I am still inclined to the opinion that by voluntary admission one can meet the outside situation better. That is, there are a great many children who attempt to attend public schools but drop out and whose parents would never apply for a commitment. It has been with reference to this class, particularly, that I have been a little opposed to the formal commitment. Dr. Wilmarth tells me, however, that in his state it has no such effect. It would seem to be impossible to devise, at the present time, any plan that would apply to all states alike.

Dr. Bullard: It seems to me to be the general consensus of the meeting that the superintendent should have the control of the situation and the power of retention, in some form, of the inmates of the institution. I think we would all agree to that; but the question whether the commitment is the only means by which that could be accomplished, might be another matter.

#### REPORTS FROM STATES

The president asked for informal reports on the progress of the work in the several states. The request was responded to as follows:



OHIO (Dr. Emerick): Everything is moving along nicely in Ohio. In the school work we are pushing the manual training harder than ever before. Year before last it was added to our schools, and this past year domestic science was added. We have been quite well pleased with the results. Some splendid work has been done along the lines of carpenter and sloyd work as well as in cane-seating; in fact, I think we have about all the old chairs in the institution rebottomed. The number of different pupils in the institution last year, was 1,620, the largest number present at any one time being 1,538.

KANSAS (Dr. Clark): With regard to the Winfield institution in Kansas, an extra effort is being made in the school work. For a number of years there were only three teachers employed but now we have the fourth teacher in the manual training work, which is improving things in a very satisfactory way. Another custodial building has been completed and is now ready to be occupied. The new building will provide for about 200 inmates, which will make the population about 600. I regret to say that at one time the Winfield institution was not as enterprising as it should have been. During the last four years many improvements have been made in the way of construction and we are making every effort to bring it up to a higher standard of efficiency in every department.

PENNSYLVANIA (Dr. Murdoch): In speaking of Pennsylvania, I wish to mention the illness of Dr. Barr which makes it impossible for him to be here. During the past year there has been opened an institution for feeble-minded and epileptics at Spring City, the third of its kind in Pennsylvania. It was established by the legislature about three years ago and was opened by the reception of between three and four hundred boys. The girls' department has not been built as yet. This has relieved the condition in the eastern part of the state to some extent so far as the care of boys is concerned, but there is still great need for additional accommodation in Pennsylvania. The institution at Elwyn is continuing along the same lines that it has for years past. I do not know of anything new there except that they are planning a department for tuberculosis and a new

amusement hall. They are also building a nursery. In Polk we have just completed an industrial school providing more rooms for industrial work and a group of custodial buildings for girls. This building will increase our capacity to fifteen hundred. We are now caring for thirteen hundred and forty. I hope that we have now reached a limit beyond which we will not go.

ILLINOIS (Dr. Hardt): Illinois has just passed through a crisis in politics regarding state institutions. We are blessed with an excellent board of trustees. We have developed especially our farm and our garden. There were 165 boys working in the garden-truck patch last summer. This year we are putting in twice as much material as we did last year. The new gymnasium is completed. An Edison moving picture machine has been placed and changes of films are made every week. Our population is increasing rapidly. There are actually present 1,214. This seems perhaps a little small in comparison with the figures given a year ago, but we had a number of children taken from us about that time.

(Dr. Smith): I would say that the institution at Lincoln has been granted \$10,000 for the enlargement of our department for industrial work and that otherwise we were taken very good care of by the last legislature, receiving in all \$481,000 for the next two years, \$420,000 of which is ordinary expense fund. About 130 children were removed during the legislative investigation nearly a year ago, which was quite unfortunate, but they are coming back as fast as they are accepted. The legislature passed a law which was signed last Monday, creating a Board of Control for our state. Before the first of July the governor appoints the members of this board but it does not go into service until the first of January, so that the old condition exists until January 1. After that time we shall have five members of the board, one of whom is to be a psychiatrist. Four members are to receive \$6,000 per annum, while the president of the board is to receive \$7,500.

NORTH DAKOTA (Dr. La Moure): Our population in North Dakota is now 145, an increase of about twenty in the last year. We are erecting a hospital building of about twenty beds. A

bill creating a Board of Control was introduced last session and passed both houses, but owing to the fact that it was passed in a hurry its sections were so conflicting that the governor was forced to veto it. A bill was introduced to prevent intermarriage of the feeble-minded but this bill was lost in committee.

NEW JERSEY (Professor Johnstone): The institution for feeble-minded women in Vineland has a new superintendent. Dr. Dunlap, who was for many years a member of this association, is no longer Dr. Dunlap—she is now Mrs. Snyder, living, I believe, in Wisconsin. The new superintendent is Dr. Hallowell. The relations of Dr. Hallowell with the other institutions of the state are very close and warm and I think she will be a very pleasant member of this association. The institution for epileptics in New Jersey has advanced in size and efficiency and is beginning to take up some lines of research which we trust will be valuable all over the country. We had a bill presented at the last session of the legislature asking for a Board of Control instead of the Commissioner of Charities that we now have, but the bill died in committee from lack of support by the citizens of the state. In the commissioner's office we have the records of all the wards of the state with a little of their family history for possibly five or six years back, and a committee is to take these names and work out the family history in-so-far as it can. The committee has begun by taking one county and getting all the names of the wards of the state in the various institutions, penal and charitable. It proposes to send a field officer through this county to see what can be found of the family histories. This field officer hopes for co-operation which we have been promised by the clergymen, the school men, and the physicians, so that it seems as though something good might come of it. The connection between the public schools and the institutions in New Jersey is very much closer than it has ever been before. The public school men are taking a very hearty interest in what is being done, and more universally than in any other state that I know of, they are taking up the cases of defective children in the public schools. In our institution the population is three hundred and eighty. We had a very slight increase in our ap-

appropriation this year, which we did not want. Our department of research is moving along slowly, but satisfactorily, as far as it goes. We had a gift of \$1,000 for this year's work on heredity. Dr. Goddard will probably take up that work in his paper.

We have added a domestic science department to our school and are quite satisfied with the results so far. We have had excellent results from our dairy this year. We have been weighing very carefully and working out the cost of milk and the cost of feed, to see how well our cattle pay, and have made some very good records. I hope at this meeting to get a chance to compare records with other institutions.

have anything special to report. Dr. Fernald, as you know, in-  
MASSACHUSETTS (Dr. Wallace): I do not know that I tended until very recently to be present at this meeting. At Waverley the most important move during the year has been the opening of the new industrial building in connection with the school department. They have gathered in that one building the different kinds of industrial work which had before been scattered more or less. At our own institution we have our fifty boys—mainly the same that we had last year—and we are now building for the admission of 200 cases this fall, together with the service end; that is, the heating, lighting, laundry, kitchen, and bakery, for five hundred, in buildings large enough so that these units can be enlarged to do service for one thousand patients.

MAINE (Dr. Bliss): Two years ago the legislature of Maine appropriated \$60,000 with which to purchase land and start an institution. The land was purchased by the Governor's Council, the purchase being made and completed about a year ago. The board of trustees was appointed late in July and the superintendent was chosen about the first of September. We began work there about the first of October, building and constructing one farm colony building for the accommodation of fifty boys and remodeling an old farm house for the accommodation of ten girls. We now have fifty-three in our care, boys and girls, and room for seven or eight more boys. The girls' building is full. The legislature of this year gave us \$200,000 to use in construc-

tion and support for the next two years, the legislature in Maine meeting only once in two years. We are preparing to build accommodations for 100 children this year, and 100 next year, besides developing our water power and providing an electric light plant for our own use, and water supply for the grounds and building. We have nothing now but a farm for the boys to work on. We have not yet started a school but we hope to get things in shape some time..

NEW YORK (Dr. Bernstein): It has been a somewhat busy year in New York. There has been a site of 2,000 acres purchased near New York City, the policy at present being to district the state, and the legislature appropriated some \$50,000 to develop the water supply, but there will be no money available for buildings or to open the institutions this year. Following the fire at Rome the question arose as to whether it would not be good policy to separate the sexes in the three old institutions of the state—the school at Syracuse, the asylum at Rome, and the asylum at Newark. The policy now is to take care of all the feeble-minded women at the Newark asylum, the feeble-minded men and boys at Rome, and the feeble-minded girls at Syracuse. A number of feeble-minded women are now being transferred to the Newark Asylum. We cannot receive the boys at Rome until we have a school department. We are soon to have it. The school work is stimulating. While we have attempted to carry on school work there, it has been in reality manual training only and has been carried on in a very crude way. The legislature of 1909 gave us \$165,000 for a new group of buildings to replace those destroyed by fire. The group is to include a new staff building for the officers of the institution. The plans and specifications are complete and the contract for the work has been awarded. Hereafter we are to have a military instructor who will drill the boys Sunday afternoons, to provide amusement for them and keep them out of mischief.

WISCONSIN (Dr. Wilmarth): The \$146,000 made available for this institution by the last legislature has been expended in the construction of three fireproof buildings, of ninety-six beds each, which are now complete and are being filled as fast as suit-

able applications are received. These have been made fireproof throughout, even to the roofs, the floors being reinforced concrete. From the earnings of our own farm we have partially completed a large dairy barn, this also being of fireproof construction except the roof. We asked the last legislature for a schoolhouse and a hospital and for \$5,000 to complete the dairy plant. The \$5,000 were granted but the schoolhouse and the hospital building were cut out. This institution needs another schoolhouse and a hospital, our hospital accommodations being inadequate for our needs, and the additional 300 children requiring added school facilities but these will have to wait until some future legislature sits.

ONTARIO (Dr. Beaton): I have not much to say about Ontario. Our institution has been completed for some years—at least it looks like that as it is impossible to induct the legislature to make further improvements and as our population is now about 800 I do not propose to ask for an enlargement believing that 800 should be the maximum in any one institution. The advisability of building somewhere else, an institution for feeble-minded women has been advocated by me for some time and I have no doubt this will be carried out shortly. Our government has estimated a hospital for epileptics at Woodstock, its accommodation at present being about 200. I am not in a position to say what success has attended their efforts, however, as I have never visited the hospital. The minister in charge of our public institutions appears to be satisfied with results so far and I suppose we shall have to be satisfied, too.

MINNESOTA (Dr. Rogers): The most serious problem that has confronted Minnesota during the last few years is where to let go. The capacity of the institution has been increased by successive legislatures, and it seems inevitable that the institution at Faribault must have at least eighteen hundred. The last legislature, two years ago, gave us funds for buildings for about 200, which are now completed, raising the capacity to about 1,300. The legislature which has just adjourned gave us \$150,000 more for additional buildings for inmates. The question of a colony farm has been under consideration for some time. At

present we are renting something over 400 acres of land. It has seemed to me, for many years, that it would be very desirable to separate the older boys and girls and it is with reference to this separation that we are pushing the colony idea for the older boys. Owing to the fact that it is so difficult to procure land in the immediate vicinity of any institution when it is known that appropriations are made for that specific purpose, the Board of Control arranged with the finance committee this winter to have an appropriation of about \$25,000 a year given to the board for the purchase of land, it being understood that about \$40,000 of this was to be given to the institution at Faribault whenever a suitable site for a colony for epileptics could be found. That matter is now under consideration. As to hospital accommodations, a small appropriation was given for increasing the capacity of our tuberculosis building and it is proposed to simply add some inexpensive wards. In the epileptic department there has been one new building added and provision is made for a hydrotherapeutic outfit for use in the colony for males. It is expected that about \$25,000 or \$30,000 are to be used in the construction of a training department and a gymnasium, the training department to be for brighter custodial cases. There are additional appropriations for increasing our boiler plant which is to be entirely reconstructed, automatic stokers and new boilers to be installed. The dairy barn is to be rebuilt and other matters of improvement of minor importance are provided for.

Adjourned till next morning.

June 22. The members and visitors devoted the forenoon to inspecting the excellent features of the Wisconsin institution and to informal discussions of the various features of the work suggested by the inspections.

At 4 o'clock p. m., Dr. Goddard exhibited the apparatus used in making diagnostic tests of feeble-mindedness, sense reactions, etc., from the laboratory of the New Jersey Training School at Vineland. The association was then called to order by the president and Dr. A. R. T. Wylie, of Faribault, Minnesota, read a paper on the Relation of Feeble-Mindedness to Disease. (P. 77).

In the evening an entertainment of a high order consisting

of songs, recitations, drills and group-dancing was given by the school children. The military drill by the older boys, and the butterfly dance by the girls were particularly interesting and pleasing and the careful training elicited many commendatory remarks from the members.

June 23rd—Session called to order at 9:45 a. m. Dr. H. H. Goddard, of Vineland, N. J., presented a Report on Growth, Height, and Weight of Feeble-Minded Children. (P. 9). Charts were presented showing height and weight curve of feeble-minded children.

Dr. Goddard: I should like to ask whether the association feels that it would be proper to call this "The American Curve" and have it go as the curve of this association? Is the association willing to stand for that?

Dr. Wilmarth: I think the association would endorse that, but ought not Dr. Goddard's name to be connected with it in some way since he has spent so much of his time upon the work?

Dr. Smith: I make the motion that the association endorse this curve as "The Goddard Curve" in recognition of the large amount of work that he has put into it.

Motion adopted.

Dr. Goddard followed this by a paper on Suggestions For a Prognostic Classification of Mental Defectives. (P. 48). Discussion, (P. 52).

On motion of Dr. Keating the president was directed to appoint a committee for the purpose of considering classification of the mentally defective and to make recommendations for the adoption of some uniform classifications and report at the next meeting.

Dr. Rogers expressed regret that Dr. C. B. Davenport was unable to be present as announced on the program, to discuss The Application of Mendel's Law to Human Heredity and followed by reading a paper on Modern Studies in Heredity, (P. 117).

At the request of the president, Dr. Rogers illustrated



briefly by chalk diagrams the elementary facts of the Mendelian law, after which Dr. Goddard explained some of his work in investigating the antecedents of defectives. This was presented by means of charts on which a set of symbols indicated the various defects and neuroses discovered in family histories of defectives studied.

After lunch the members and visitors were taken in automobiles by the citizens of Chippewa Falls to visit the Chippewa County Asylum for Insane.

At 8 o'clock p. m., the session was called by the president, and the treasurer's report was read and referred to the committee of audit. The committee on time and place reported in favor of Lincoln, Illinois, time to be announced by the executive committee. The committee on organization reported as follows:

For President, Miss Mattie Gundry, Falls Church, Va.; Vice-President, Dr. A. R. T. Wylie, Faribault, Minn.; Secretary and Treasurer, Dr. A. C. Rogers, Faribault, Minn. Editorial staff, Dr. A. C. Rogers, editor-in-chief. Associates, Dr. W. E. Fernald, Dr. M. W. Barr, Dr. Geo. Mogridge, Dr. A. R. T. Wylie, Dr. H. H. Goddard, Dr. H. G. Hardt, Dr. C. S. Little, all of whom were unanimously elected.

The president then announced the following committees: On classification, Doctors H. H. Goddard, A. R. T. Wylie, J. M. Murdoch, W. E. Fernald, W. N. Bullard. On resolutions, Professor E. R. Johnstone, Dr. W. H. C. Smith, Dr. A. W. Wilmarth, Dr. A. C. Rogers.

Dr. Smith called attention to death of Mrs. Sarah Clapp, for many years connected with the institution at Elwyn, Pa., as matron. Dr. Wilmarth spoke of her long and valuable term of service from personal knowledge of her life and character and moved that the committee on resolutions make an appropriate record of her service, for publication in the minutes of the association. Dr. Rogers spoke of the death of Dr. Barrows, president of the International Prison Congress, so much of whose life was devoted to the interest of prison reform. He was closely affiliated with our work by his keen interest in it and through his wife, Mrs. Isabel Barrows, who for many years regularly attended our

meetings and admirably reported the proceedings.

At this point, the president, being obliged to leave for home, requested Dr. Smith to take the chair. A paper was read on Certain Fundamental Principles Involved in the Production of Epilepsy, by Dr. A. L. Beier. (P. 61). Discussion followed. (P. 76).

An address on the Summer School for Teachers was next given by Mr. E. R. Johnstone. (P. 122). Discussion, (P. 128). The hour being late the paper on Talipes Equinus-Varus, by Dr. H. F. McChesney, of New York City, was read by title, and the chairman announced that the business of the session being completed a motion to adjourn would be in order.

Mr. Johnstone: It seems to me we ought to send a word of thanks to the good citizens of Chippewa Falls who entertained us this afternoon. The spirit of the whole thing is impressive. There is an immensely beautiful spirit in this institution, far enough away to be forgotten altogether by this busy little western town, but its citizens go out of their way to come to ask this institution if they cannot do something to entertain us. —a lot of strangers, who will probably never be anything to the people of Chippewa Falls. These people do this because there stands on their border this institution which is so loaded with the spirit of thoughtfulness and kindness that they cannot help coming out and offering to give us a good time. I move that a resolution of thanks to this pleasant company who assisted in our pleasure this afternoon be transmitted to them through Dr. and Mrs. Wilmarth, and that this expression of gratitude be extended to the Doctor and his wife for their thoughtful and generous hospitality, to their assistants, the corps of teachers and to the Board of Control who has made this occasion possible.

Adopted by a rising vote.

The Chairman extended a hearty invitation to all of the members of the association to attend the meeting at Lincoln, Ill., next year and stated that Governor Deneen had personally approved of the invitation and in a communication just received expressed a desire to lend his assistance in any way possible to make the meeting successful.

The association then adjourned.

## TREASURER'S REPORT

149

## TREASURER'S REPORT, 1908-1909

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To Cash Dues, 1903.....	5.00
To Cash Dues, 1904.....	10.00
To Cash Dues, 1905.....	15.00
To Cash Dues, 1906.....	32.00
To Cash Dues, 1907.....	59.00
To Cash Dues, 1908.....	129.10
To Cash Dues, 1909.....	10.00
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To Sale of Decennial Volumes.....	22.80
To Sale of 11 copies of Idiocy and Its Treatment by the Physiological Method.....	19.25
To Sale of Paper (Journal Stock).....	11.03

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 \$827.23

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By Proofreading .....	40.00
By Stenographic Work.....	40.00
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By Postage .....	11.80
By Telegrams .....	1.14
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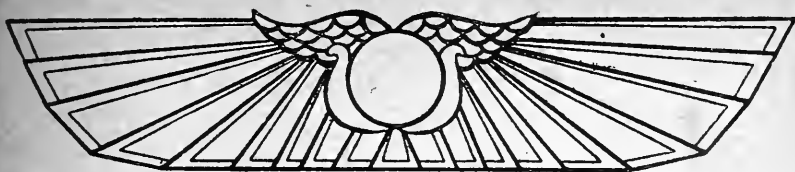
Balance on Hand..... 336.06

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 A. C. Rogers,  
Treasurer.





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1910

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Volume  
XV

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FOR THE  
STUDY OF THE FEEBLE-MINDED

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Published Quarterly at  
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MINDED AND EPILEPTIC

Published Quarterly at Faribault, Minnesota

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## THE CLASSIFICATION OF MENTAL DEFECTIVES

BY DOUGLAS SINGER, M. D., M. R. C. P., HOSPITAL, ILL.

It is with considerable diffidence that I venture to bring before this association a topic so time-worn and already so much discussed, especially as the views I am going to express are not original. My excuse must be the wide variation and confusion which still exist and the fact that these views have been largely ignored. The number of methods of classification is almost as large as the number of writers, a fact which may partly be explained by the variance in the point of attack. It will obviously make a great deal of difference whether the object be that of practical utility in caring for patients as in that of Barr, or whether the purpose is a scientific arrangement of the facts.

As with all other medical subjects, the only satisfactory basis for a scientific classification is that of pathology and many attempts have been made to carry this out. There is, however, one feature in many of these schemata which is widely taught and accepted and yet which gives rise to much confusion and misconception in spite of the otherwise well-founded system adopted.

In using the term idiot there is a more than tacit acceptance of the existence of a condition—"idiocy"—even although the occurrence of a variety of pathological conditions is acknowledged. An exactly similar error obtained for long in psychiatry with regard to the term "insanity" from the influence of which this subject is only now beginning to emerge. In order to illustrate the above statement I quote from one of the most widely-read text books on this subject in the English language, viz., that of Ireland. In defining idiocy he states, "Idiocy \* \* \* has a superficial resemblance to dementia much in the same way that the dotage of old age sometimes resembles the weakness of childhood. Dementia begins with average intelligence which gradually diminishes, idiocy begins with a low amount of intelligence which gradually increases." There are several ways of reading the phrase. (1) It might apply to the point from which the individual starts after he has become an idiot, that is to say, after the occurrence of the pathological lesion which, as we know may be either pre- or post-natal. In this case the statement becomes unnecessary and highly misleading as it would then merely mean that the idiot is capable of education, the dement supposedly not, though this is certainly open to dispute. Furthermore it is then a contradiction of the superficiality of the resemblance and implies that if the lesion occur in early life, we call the resulting mental defect idiocy, in later life, dementia. This is indeed the only rational view of the matter, and just as we do not speak of dementia as a disease but merely as a symptom complex of variable cause and localization, so we should always remember that the group of symptom complexes included under the head of idiocy do not form a disease entity. The classification of idiots would then be made like that adopted for dementia according to the nature and seat of the disease process causing the particular symptom complex. The phrase with its context seems then to contradict this manner of reading, although the author proceeds to classify largely as if he did so mean it. (2) The meaning which seems to have been widely accepted is that the idiot starts out with a low grade

of intelligence, regardless of the occurrence of a pathological lesion, and this interpretation has done much to promote misunderstanding and confusion. One does not say that aphasia occurring in a child bears only a superficial resemblance to that of an adult, although the former starts from a smaller store of memories, and furthermore is at times capable of improvement and re-education, whereas the adult is not, although this conclusion would be fully as justifiable as the other.

This criticism has a far broader bearing and greater significance than would at first sight appear because it affords at once a sound and rational basis upon which to broadly divide cases of mental defect. Looked at in the light here emphasized we may say that idiocy, or better, idiocies, like the dementias are symptoms of organic brain disease. Let us make a further comparison with dementia. This latter name is applied to all degrees of mental defect resulting from destructive brain lesions, and it is not considered necessary to have any further term to indicate the slighter degrees, but apparently a single name does not suffice to cover the grades of defect if the organic lesion occurs before birth or during earlier years of post-natal life and we are taught to call such by the name of imbecility, the most ingenious criteria being advanced to enable us to draw the line between the two.

If one studies the cases which are generally classed under the term imbecile, as has been so ably done by Paul Sollier in his work on the "Psychology of Idiots and Imbeciles", first published in 1891, to which I am largely indebted for the framework of this paper, one finds that the great majority of them present an entirely different picture clinically, psychologically and pathologically to that of the group of mental defectives universally called idiots. In order to illustrate these differences I propose to quote briefly two very instructive cases which have recently been under my observation.

Case 1.—A male, twenty years of age, is the eldest of a family of four, one of whom died early in childhood from infectious disease, the other two being healthy. There is a strong

history of alcoholism in the father and other male members of his family, including his father and three brothers. The father's mother died of some slowly progressive paralysis. On the mother's side no nervous or psychopathic taint was discovered. Patient was born at full term after an uneventful pregnancy, delivery being natural. He walked at about one year but did not talk until about two, and always had some indistinctness in his speech. Nothing abnormal was noticed until the boy was about five years of age, when he was observed to be backward as compared with other children of his own age, and to be somewhat deaf. About this time he had an attack of scarlet fever which is said to have been not unusually severe and without complications. Whether or no this preceded the observation of his backwardness the mother is unable to state with certainty. She is emphatic in saying that he never had any discharge from the ears at any time. At the age of six or seven he fell from a buggy and was unconscious for possibly half an hour. No further ill effects were noticed. Since that time he has been physically well. He attended common school from six to fourteen, but made very poor progress, being promoted to the fourth grade in the last year, although it was recognized that he was not really proficient in the earlier grades. He showed some aptitude for writing and drawing but not for any other subject. He was never reported as misbehaving himself at school and did not get into any trouble, but during the last year or two he began to shirk school if possible. He is reported to have made many friends, chiefly among those older than himself, to have taken a lively interest in outdoor games, although it is possible from his brother's statements that he was but a poor player. Nothing abnormal was noticed in his movements at any time. He was inclined to be ill-tempered on slight cause, but was friendly in disposition, never unkind to animals and easily led. Since leaving school his character has deteriorated from year to year, apparently owing to an utter lack of any supervision or instruction, and also to his inability to obtain steady employment as a result of his deafness and lack of intelligence. He has

come to associate with a low grade of individuals in the streets and has learned to drink. His statements have become unreliable and he has once or twice stolen things. He has become more irritable in temper, liable to violent outbursts of anger in which he will assault others, the most common cause for such outbreaks being his belief that someone, especially his sister, is saying something unpleasant about him. Such ideas seem to be caused by his disability in hearing which result in his catching only a few words of the conversation without the context. He was sent to the school for the feeble-minded at Lincoln four years ago on account of his outbreaks of temper, but was there only six or eight months during which time he ran away twice. The first time, he returned home and the second time went to his father (who had been divorced from his mother) for several weeks before going home. Apart from these episodes he has made many friends and seems to get along with others well. He is, however, extremely credulous, and his associates have led him to believe many things which they have told him for their own amusement, such as that he is a great singer, dancer, boxer, etc. He has but little appreciation of the value of money as regards its purchasing power and worked for people at an absurdly low rate of wage quite contentedly. He tells of his employment in various ways at good salaries; which are found on investigation to be founded on but small elements of fact although not entirely false. No evidence of any great sexuality has been observed at any time and there is no history of onanism. He has shown himself capable of both pleasure and grief. He was sent to the institution at Kankakee on account of a fight with his sister, which arose from a misunderstanding on his part when he thought that she was speaking against him and calling him names. He became so violent that his family were afraid of him.

Physical examination revealed a slightly built young man, five feet seven inches high, weighing one hundred and thirty-nine pounds. Dark hair which was somewhat scanty on the upper lip and chin, also on the pubes. His skull was small,

measuring  $52\frac{1}{2}$  cm. in circumference at the level of the glabella and external occipital protuberance. It was proportionally narrower in front than posteriorly, the cephalic index being 85. The facies was rather pinched and small. The ears were small, presenting no very marked stigmata. The palate was narrow and very highly arched. The skeleton presented no very marked deformities, with a few exceptions. The left hand and arm were slightly smaller than the right, both in circumference and length. The arch of the left foot was distinctly higher than that of the right, but no differences were detected on measurements between the two lower extremities. The general bodily organs presented no abnormalities.

Nervous System: The special senses showed marked deficiency in hearing, neither a tuning fork nor a watch being heard by air conduction at all. By bone conduction a tuning fork was heard on both sides, though not quite up to normal limits. No perforations of the tympanic membranes were discovered, but they were thickened and drawn somewhat inwards. Vision was probably normal. No evidence of defect or disease was found on examination of the ocular media or fundi. Taste and smell were also defective. He did not seem to be able to differentiate between sugar and quinine very well by name, although he obviously observed some difference. Cutaneous sensibility is apparently acute all over the surface, but localization both to tactile and pain impressions was not good, mistakes being made sometimes in the direction of the long axis and at others in the horizontal axis of the body. No difference was noted between the two sides in this respect. Testing him for touch and pain sensibility by simultaneous stimulation of the two sides of the trunk, both thorax and abdomen, back and front, it was repeatedly noticed that he spontaneously remarked that the stimulation of the right side was stronger than that of the left, and two or three times he denied having been touched or pricked on the left, although care was taken to use stimuli as nearly equal as possible. Muscle sense was also somewhat defective. In the finger-nose test there was some uncertainty on both sides at

first, but this improved with practice. In the lower extremities Rombergism was present, and when the two limbs were tested separately, this was quite obviously more marked on the left than on the right. In the motor sphere no very marked disturbances were found. He lisped in talking and there was some nystagmoid jerking on extreme lateral deviation of the eyes. He was right-handed, and the dynamometer recorded constantly about 142, whereas in the left the record varied considerably, being generally about 110, a difference probably greater than normal. The deep reflexes were more active than normal on both sides, but very decidedly more so on the left than on the right. Both plantar reflexes were of extensor type.

To summarize the physical findings, patient presented a small head of brachycephalic type; a rather narrow, highly arched palate and a slightly smaller arm, forearm and hand on the left side than on the right. Marked deafness, apparently due to middle ear disease, and some deficiency in taste and smell. Slight difference in the skin sensibility on the two sides, being less on the left. Rombergism more marked on the left side and slight unsteadiness with his hands. Exaggerated tendon jerks on the left, with diminished skin reflexes on that side and bilateral Babinski phenomenon.

Mental Examination: Patient was well dressed, neat in his personal appearance and tidy in his habits. He was uniformly well behaved whilst under observation, made many friends and adapted himself well to the hospital routine. Only once was there any outbreak of temper, which was again due to his belief that some other patient was talking about him. He was not restless, nor was he apathetic, but was constantly asking for employment and when given work to do carried it out steadily and well although he required directing as to what to do next. He took an interest in the games on the ward and seemed to enjoy them. He was quite able to appreciate small jokes and would laugh heartily and did not show any undue instability of mood. In giving the story of his life he told many things concerning his work and capabilities, which were found on investigation

not to be true. He spoke of himself as a railroad employee, said he had worked as an engine oiler and also as a baggageman, and in this latter occupation he claimed to be making \$60.00 per month. The real facts would appear to be that he had assisted some relatives in working on engines in the round house for a short time and had helped some baggageman in carrying out his work, for which he received small sums. His credulity has already been indicated in the history. He evidently thought well of himself, and did not realize that he was in any way different from others around him, and believed himself fully capable of managing his own affairs. His mood was adequate to the circumstances. He became very indignant when speaking about his treatment by his sister and depressed when speaking of his detention in the institution, expressing himself as anxious to get back to work. He was evidently much attached to his mother and wrote to her frequently. His memory for events of recent and remote past was good and he showed himself entirely familiar with common, concrete objects of his surroundings. There was, however, but little formation of more abstract concepts. He was unable to give any expression as to the difference between right and wrong beyond repeating the words. He expressed great interest in engines and was asked to describe on what principle an engine ran. His reply, "The engine and steam", showed a complete lack of understanding of the principle involved. When asked how the steam works, he replied, "Coal and fire." He could not repeat the alphabet correctly, but performed some very simple multiplication tests correctly, such as  $7 \times 5$  and  $10 \times 11$ . He said there was a difference between  $9 \times 7$  and  $7 \times 9$ . He subtracted 7 from 100 correctly but when asked to continue subtracting he made hopeless mistakes and did not seem to appreciate the meaning of the test at all. With Heilbronner's test he at first did badly but rapidly improved with a little practice, missing hardly anything. When shown various objects and letters printed on a card, he did well when they were only two or three in number but made mistakes when there were more. He read aloud rapidly, monotonously,



almost unintelligibly, taking long words without stopping and obviously without recognizing them. When asked to summarize what he had read he only did so if the story had been extremely simple. The fable of the dog and the meat was described as, "a dog crossing a river with meat in his mouth, another dog came along with another smaller piece in his mouth." When asked to cross out the "e's" in a piece of print, he did so rapidly, carefully and with almost normal accuracy, crossing out 43 out of 44, but making a mistake in crossing out one "o." His writing was entirely legible, of rounded characters, and performed better than most of the other tests which were used.

Case 2.—A man of 32 years of age, of German-Jewish descent, born in America of healthy parents. Father died with pneumonia at 66, mother living and well. Patient is the fourth of four children, and two years only are said to have elapsed between the birth of the second and the fourth. At the time of her pregnancy and following confinement with the second child, the mother is said to have had nervous prostration. No other history of insanity or nervous pre-disposition could be obtained. At birth patient seemed normal, except for an undescended testicle. He learned to walk at sixteen months and is said to have developed physically with ordinary rapidity. He did not, however, talk until three years of age. School life began at the age of six and by twelve he had entered the fourth grade but was making such poor progress that he was taken away and given private tuition without, however, much result. He was taken to Germany, and there placed for about two years in a feeble-minded school, and on returning to America was sent to a school at Godfrey, Illinois. In spite of all this careful teaching and training he made no advance in his school knowledge. He is said to have been always idle and incapable of applying himself. An attempt was made to employ him at manual labor in his brother's store, but he stayed there only a week and achieved absolutely nothing. He was later sent on a farm with the idea of being taught to work outdoors, but remained idle and unteachable. He finally refused to stay there any longer, and complained that the woman

in whose care he had been while there had insulted him by nursing a baby before him. Sexual activities developed very early and he has practiced masturbation from youth, showing also other perversions. -These features were so noticeable that double vasectomy was performed with the hope of obtaining some improvement, but without result. His appetite has always been voracious and he has been gross in his habits as to eating. He has always been more destructive than other children and cruel to animals taking delight in seeing them suffer. His mother reported him as being sensitive and extremely selfish, paying no regard to the feelings or comfort of others. He has always been addicted to lying and stealing.

Physically, a well developed individual, 5 ft. 8 in. in height, weighing 177 lbs. Characteristic Jewish facies. Skull was well shaped, 57 cm. in circumference, with a cephalic index of 80. Ears well formed, palate broad with good arch. Hair developed somewhat excessively over the chest and not very heavy on the scalp. No abnormalities of the skeleton detected anywhere. General physical examination revealed nothing abnormal. Vision, hearing, taste, smell and cutaneous sensibility were all acute, and localization was good. There was no Rombergism or other evidence of bodily disorientation. Muscles of the two sides of the body were well developed and power was about proportional. It was noticeable that considerable variation in the figures obtained with the dynamometer was recorded. Gait and station showed nothing abnormal and all movements were performed easily and smoothly. The reflexes generally were brisk but equal in the two sides. The plantar reflexes were both of flexor type.

Psychic State: Patient required considerable attention to keep him well dressed and clean, as he was careless in his habits, would spill food on his clothes, etc. He talked freely and at first seemed pleased with his new surroundings but this soon gave way to a restless peevishness with complaints about those around him, often upon no grounds so far as could be discovered, whatsoever. He would often cry fretfully and blame others for the cause but even during such moods he was easily diverted and

brought to smiles and boasting. He made absolutely no friends among the other patients or attendants during his stay in the institution, and although not indifferent to his surroundings would keep to himself a great deal, always restless, wandering about in an aimless manner, frequently irritable. He appropriated little articles on the ward belonging to others, masturbated frequently, showing absolutely no shame or remorse, although willing to talk glibly about the wrongfulness of such doings. His statements were often unreliable and untrustworthy. He was constantly asking for favors which he would abuse when granted. When given the parole of the grounds at the request of his friends, he made himself a general nuisance by wandering away, going into a store nearby asking for food, etc. Attempts to employ him failed utterly. On the ward he had to be directed in every task and followed constantly to see that it was performed. He was tried mowing the lawn, helping in the carpenter shop, etc., but while intensely pleased at first, and especially anxious to tell everyone that he was working now, and to show himself off in his overalls, he accomplished nothing but succeeded in getting in other people's way, bragging about what he was going to do. This habit of bragging was a marked feature and he would boast of his family wealth and position, speaking very readily of his contempt for most of the other patients and was especially proud that his mother wished him to have a special attendant. In speaking he showed an extremely desultory character, prattling on from one subject to another, often without regard to any connection between them. Questions asked of him often had to be repeated and then were liable to be answered without consideration and the topic at once dismissed. He had a number of glib phrases which he used without the least understanding. When asked "What is your theory of life?" he replied, "A man ought to make himself generally useful and do some work in the world." This, with a momentary solemnity followed by a sudden brightness as he said, "My mother wants me to have a special attendant." He gave farming as his ambition but admitted that he did not make use of his opportunities

and explained that his reason was that, "they did not give me enough attention, it was not my fault." His memory and orientation were good for striking events in his past life, but he was quite unable to give any consecutive story or to arrange his facts in chronological order. His general knowledge was sketchy, largely limited to things of his own personal experience, and even then he showed a lack of the grasp of facts; as for instance, he stated and affirmed that the Atlantic Ocean is in New York harbor. He knew that the capital of Germany is Berlin as he had been there, but said that the capital of France is Belgium. His calculation was good as far as the multiplication table is concerned. He did some simple problems in addition and subtraction. He subtracted 7 from 100 slowly and with very much urging as far as 79 correctly, then said 71 and became peevish, refusing to go any further. He gave one-fourth of twenty as being five, but could not calculate three-fourths of twenty. With Heilbronner's test he showed very decided disturbance of attention failing to note the difference between two pictures even when he had them side by side although he promptly recognized the outlines, even in their simplest forms. He also perceived with probably normal rapidity letters and objects printed on a card. He read aloud well and easily, but summarized the fable of the dog and the meat thus: "The dog went away with a piece of meat and he lost the piece of meat." Asked if there was anything else, "He lost it irrecoverably" (notice the retention of the only long word) "but I think he found it again." When asked to cross out the "e's" in some print, he did so carelessly and rapidly, omitting one whole line and crossing out one "c". He crossed out only 40 out of 60.

In the first case there are unmistakable indications of gross organic brain disease, in the second these are wanting. In the first case the individual is capable of paying attention and being educated, as even his bad habits, limited to the last few years unfortunately demonstrate. But otherwise he shows only the results of loss of brain mechanisms without any evidence of perversion in the functions still present. Or in other words he

presents a picture of purely quantitative defect, exactly comparable to, though less in degree than, that shown by the defectives usually classed as idiots. In the second case there is no evidence of any quantitative defect but marked perversion is evidenced in his sexuality, cruelty, lying, thieving, etc., which have been present from childhood. He has had opportunities for education which have been excellent, yet is a far more useless and harmful member of society than the other. He is incapable of steady attention and hence of education. One may well contrast this case with the first as being an example of qualitative instead of quantitative defect, or to use the terms of Sollier, the first is an unfortunate and extra-social, the second a pervert and anti-social.

I do not wish to be understood as quarrelling simply with the use of the word imbecility. This term has been so widely accepted as indicating a mild form of idiocy that it would be difficult, probably, to give it any more restricted meaning and for that reason it were better discarded. The term "constitutional inferiority," has been used of late, though perhaps never very clearly defined, to apply to some of these cases of qualitative defect and might be suggested for adoption. Whatever name be used, the principle of subdivision of mental defectives into the two large groups, (1) quantitative or idiots, and (2) qualitative, seems to afford grounds for the first step in forming a rational classification.

#### SUMMARY

(1) Idiocy, or better, the idiocies bear a very close relation to the dementias.

(2) The idiocies are the result of organic brain lesions and may vary in degree from the slightest to the most complete quantitative defect.

(3) The term imbecility as usually defined is unnecessary and confusing.

(4) The idiot is more or less educable, depending upon the amount and probably also localization of destruction of brain tissue.

(5) The majority, though by no means all, of the so-called imbeciles present a qualitative defect without gross organic brain lesion and have nothing in common with the idiot proper.

(6) The qualitative defects imply a more or less complete impossibility of education.



## FOUR HUNDRED FEEBLE-MINDED CHILDREN CLASSIFIED BY THE BINET METHOD

BY H. H. GODDARD, *Ph* D., VINELAND, N. J.

One year ago at our meeting at Chippewa Falls I presented a paper in which it was attempted to show how we might develop a classification based on tests of mental ability, and which would have some uniformity upon which we could all agree. I outlined at that time a decimal system based upon a set of tests devised by Professor Binet, of Paris. The Binet tests then referred to were those published by him in 1906. In 1908 Professor Binet published a new set, what may be called the final summing up of his years of work in the study of methods of measuring intelligence.

In these tests, a part of which I have translated and published in the Training School, for December, 1909, Binet has worked over and standardized his tests until he has a very definite and apparently accurate "Measuring Scale for Intelligence," as he calls it. By carefully studying normal children and finding out what they can do, and picking out, of all the things that he has found, those that are so fundamental and human that they do not depend upon training, he is able to say to us, any normal child who has lived in the world three years is able to do such and such things. He gives five tests for each year. First, such a child of three can point to his nose, his eyes, his mouth; he can repeat a couple of simple phrases as, "It rains," "I am hungry;" he can repeat two figures; he can enumerate more or less of the things seen in a picture; and lastly, he knows his own name. At the age of four he can go a little farther. He knows whether he is a boy or a girl, which he did not know at three. He recognizes a knife, a penny and a key. He can repeat three figures now, and he knows the difference in length between lines that are an inch and a half and lines that

are two inches long, and so on through the years up to and including thirteen.

As you know we have been studying, testing and examining the children at Vineland for nearly four years. When this set of tests appeared, we at once concluded that the best thing to do would be to put our children systematically through the tests for the sake of testing the tests as well as finding out how our children would rank in regard to them. That work has recently been completed and it is for the purpose of giving you some idea of the value of this method that I am going to present to you the results of that study.

We find our children divided up into the following groups: Thirty-six have the mental capacity of a child of one year; thirty-seven, the capacity of a child of two years; forty, of three years; thirty-seven, of four years; forty-two, of five years; thirty-nine of six years; forty-seven, of seven years; forty-four, of eight years; thirty, of nine years; fourteen, of ten years; five, of eleven years, and seven, of twelve years. There are none who test above twelve.

Having arrived at these divisions, our next problem was to study the results in the light of our experience with these children. The first thing was to call to our aid the experience of all those in the institution who knew these children and had known them for some years. At our executive meeting, composed of the heads of all the departments of the institution these lists were read one at a time, and the members present were asked to express their opinion as to whether the children given in any one list seemed to them to be all of about the same mental capacity; whether any in the ten-year-old list, for example, seemed to them to be much higher or much lower than others in that list. The result of this method was as follows: As soon as the list was read, someone immediately raised a question in regard to certain cases. This was, I believe without exception, always answered by others in the room, that the objection was not a valid one, that the child in question was of about the same grade as the general run of the group. Perhaps the person who thus an-



swered would, on the other hand, suggest some other child that he thought did not belong to the group, to which again others would make the same answer. In other words, the outcome was that no child was entirely thrown out of the group by even a majority of those present, to say nothing of a universal condemnation of the result. I next took the same procedure with the teachers of the school; having them all together I read the lists carefully and asked them to raise any objections that occurred to them for grouping all of these children together. Precisely the same thing happened as with the heads of departments. Certain teachers felt that some child, or several children, perhaps, were too high or too low and did not belong to the group, but always someone or more came to the defense of the classification as it was presented and the result was that we decided that there was no exception to be made to the grouping as determined by the Binet tests.

Such a result as this was very surprising and encouraging. Such a result was not wholly unlooked for by us because, while giving the tests we had come more and more to feel that Binet had certainly evolved a very remarkable set of questions and that they did work out with amazing accuracy, and I believe it is true that no one can use the tests on any fair number of children without becoming convinced that whatever defects or faults they may have, and no one can claim that they are perfect, the tests do come amazingly near what we feel to be the truth in regard to the mental status of any child tested. At least I believe that it is correct to say that the classification as we have made it, in accordance with these tests, is entirely satisfactory to all of the people in our institution to whom the result has been submitted.

But such a test as this, by appealing to the opinion or it may be said, to the memory of a group of people, however well they may know the children, valuable as it is, is not quite conclusive. We are, however, not limited to this test of the result. Last fall, when we began the testing, we also began another system by which we would be able, as we hoped, to check up the

result and correlate two different lines or kinds of estimates, and come at something that should be scientifically accurate. The first step in this was to prepare blanks containing a rather long, and as it seemed to us at the time, a rather exhaustive list of questions in regard to the children. The plan was to send these around to every normal person on our grounds who had anything to do with any child, and ask him to answer such questions as he found he could answer. The plan was later modified and improved, as we believed, by sending one of my laboratory assistants to interview each attendant or employee and write down at his dictation what he had to say in regard to the child. If this had, perhaps, some slight disadvantages, it undoubtedly had the great advantage that the assistant was able at all times to explain what we meant by the questions and to elicit definite answers which we would not otherwise have obtained. In no case was any person urged to try to find an answer to any question, but all were encouraged to give anything that their experience had qualified them to answer.

In this way we obtained from two to fifteen separate and independent comments on each child. These comments are sometimes conflicting, but the conflict can usually be explained. For instance, one person may say that a child is honest, the next one says that he is not. In that case we feel that one person has had some experience with that child which the other has not had.

Our next step was to get all these data together where they could be seen at a glance. Large, specially ruled sheets were prepared with the headings or catch-words referring to each question on our separate blanks, and columns vertically ruled for the name of the person giving the answer. Then the whole was gone over and the answers in abbreviated form were transferred to this large sheet, so that when that work was completed we had a large sheet for every child in the institution, and on that sheet we have the opinion on that child expressed by every person who knows anything about him. The final step in the process is to put together the results as ob-

tained by this latter method, and the results of the Binet tests. For instance, we must find out whether the child who, according to the Binet tests has a mental development of a ten-year-old normal child is really better in his whole history in the institution as tested by experience than the child who, according to Binet, would rank as nine years of age, mentally. The result as far as we have obtained it, I shall detail to you presently. But first I must tell you that we have still another correlation that we have been carrying on. As you know, we are testing the children in the laboratory by methods of our own, by methods that we have picked up here and there. These, are, perhaps we may say, mechanical methods, or better, methods of motor control, or methods of testing the intelligence in other ways than by appealing directly to the intelligence and having the child answer questions. Our plan included, therefore, lastly: the testing of the children by all of the different methods; for example, by the methods that you saw at Chippewa Falls last year, and that you can see in the laboratory here at Lincoln, and then correlating those results with the Binet tests and the results of experience as tabulated on the large sheets. For example, we must determine whether the ten-year-old boy as classified by Binet does better work on the ergograph than the nine-year-old-boy; whether the seven-year-old can do the form board in quicker time than the six-year-old; whether the four-year-old is a little better with the ataxiagraph than the three-year-old, (all of these being mental ages of course,) and so on through our entire list of tests, or any others that we may devise.

I had hoped to have a great deal of this done at this time and be able to present to you a conclusive argument on this question of classification. However, the work proved to be vastly greater than I had imagined, and although there have been three of us at work on it all of the year nearly, we have still a great deal to do. Indeed, it will take probably at least another year to get anything like a complete statement of results along all these lines. However, I am able to present you a few things which will give you some idea of the general trend of

the matter and I hope throw some light and enable you, perhaps, to take some action on this matter of classification.

Perhaps I may take the form board first, as the simplest and well illustrating the methods with all of our special tests of motor ability. Having had every child in the institution try the form board and noting the time in which he was able to place the ten blocks in their holes, we arranged those on a curve according to the mental age of the child as determined by the Binet test.

The result is shown as follows: Those who are two years old mentally require 150 seconds on the average to do the form board. Those who are three years old require 70 seconds; the four-year-olds, 50 seconds; the five-year group, 30 seconds, and so on down gradually as you see, until those who are twelve years old do the form board in 13 seconds. We thus get a very pretty curve and a very clear confirmation of Binet's estimate. We have been able to carry this a little further. You will find by reference to the Binet test that at the age of five he says a child should be able to copy a square, at the age of seven he is able to copy a diamond. This is, of course, the average. As individuals, we find some can copy the diamond earlier than seven and some not until later. Some can copy the square as early as three years, and some not until seven or nine. Taking all of these cases and drawing the curve for those who can do only the square at various ages, and those who can do the diamond, and then comparing that with the time it takes to do the form board, we have some very interesting results which read like this: Those children who can do neither the square nor the diamond require a longer time to do the form board than the average of all the children; those who can do the square but not the diamond do the form board in less time than those who can not do the square; and lastly, those who can copy a square and a diamond both, no matter what their age is, can do the form board in the quickest possible time, age for age. And thus again we have a very neat confirmation of the correct estimate of the children according to the Binet method.

Several other tests have been carried thru, some of them not

quite worked up as yet, I will not trouble you with them at the present time.

Let us turn our attention now to the much more difficult problem, but one which I feel sure will appeal to you more strongly, that of correlating the results of our study as condensed on the large sheets, with the Binet ages. We have, as yet, really finished nothing in this line of work, but I am able to give you a little on the first topic that we took up. It seemed that the question of what these children were actually doing, had been trained to do, would be one of the very fundamental things in this whole problem. We have accordingly gone over the sheets and determined, on the basis of all of the answers by the people who work with them, what each child can do, what he is actually doing, and how he is doing it.

Before following this thru, I must call your attention to a difficulty that we met at the outset. We soon realized that having in one of these groups that test to the mentality of say an eight-year-old normal child, children who were actually anywhere from twelve to fifty years of age, we were facing a very interesting problem, as to what was the difference between children who had lived in the world twelve years, and those who had lived twenty years. In other words, assuming that a child could remain only eight years, how much could he learn to do. Of course in considering the normal child we have no basis for judgment concerning one child, because while an eight-year-old child is learning to do one thing he becomes nine and ten and eleven before he has learned very many things. If we could take a thousand normal children of, say ten years of age, all of whom had had different opportunities and had been taught different things, and group together all of the different things that they have learned to do, we would have some idea of the meaning of a child being ten years old, and we would have something that would be valuable to our present study because we would then know what to expect of these children. In other words, a child who tests according to the Binet test, ten years of age, but is actually fifty years old, may be expected to do a great many things

which will quite surprise us because we have never happened to know of a ten-year-old child that could do those things. This is exactly what we find and our first impression invariably is, when we consider any one of these older children, that no normal child of that particular age could really do all those things, which is quite true—no one child could. Furthermore, we found that this fact complicated the matter very much when we came to attempt to sub-divide these into groups according to what they could do. We found, for example, that a child who was seven years old mentally, but forty years old in experience, could do just as much and just as well as some other child who was ten years old mentally and only twenty years old in fact. So that in order to get some accurate idea as to what mental age meant in the training of these children, we had to cut out all those who were beyond the training period; consequently we have considered those who are under twenty, and we find that a nine-year-old child under twenty, does better work than an eight-year-old child under twenty, whereas, as already said, we might not necessarily find that a nine-year-old child would do as good work as some other child who was mentally seven years old, if the former were under twenty while the latter were nearer thirty.

Taking these things into consideration we find we have the following: In the one-year group we have the children who do not talk and do not play. In the two-year group there are a great many that play a little, altho it might, perhaps, be questioned whether it should be called play, and would not more wisely be considered simply irritability. When we look at the older group, that is, those above twenty in this two-year grade, we find some who attempt some sort of simple work. In the absence of a long past history of these cases we wonder whether it may not mean that at one time they were of a higher grade, but now on account of their age have degenerated and lost so that they cannot pass the Binet test at any higher age than two. In the three-year group we find many that play, and all talk. This seems to make a rather sharp line, because, as we said, in our two-year group

there are none that talk at all. In the four-year-old group we find about the lowest of those who do anything at all. Very little is expected from any of these children who are under twenty years of age. Those who are over twenty have learned to do a little, but still not very much. They are about what we have called, under the old classification, low grade imbecile. In the five-year group we find the emphasis laid upon those who help or who try. One boy tries to make beds, another one does kindergarten work; another, cannot learn any work; another, can "sort clothes," which means that when he is given an article and told what it is he can put it into a certain box. In the six-year group we find a great deal of mention made of the children who help do things; not that they make beds but they help make beds, do kindergarten work, or iron an apron. In the seven-year group we find expressions like this, "little things in the cottage," "rub floors," "dust," "do errands," "little errands," and so on, thru the list. We find a distinct improvement as we pass into the eight-year group. There are children here who do errands, who do the simplest sort of barn work, the school children who can, perhaps, mend stockings or sew a little, or ordinary work of sweeping, or emptying the garbage box. We find in the nine-year group children who can do pretty good routine work to which they have been trained, but they still require careful supervision. They can, for instance, help around the house and around the barn; they can do errands; they can pile up bricks; they can take care of a bath room, perhaps, or do simple ironing or mending. Of those who grade to the mentality of a ten-year-old child, there are fourteen. There is, on the whole, quite a noticeable difference between these children and the younger ones. The work that they do is rather higher, they require less supervision, so that it is plainly noticeable that they are older than those in the lower group. In the eleven-year-old group we find only five individuals, but they contain children who for example can care for the supervisor's room entirely, can take care of animals entirely satisfactorily, and who require little or no supervision. They are, it is true, not quite as expert or quite as trust-

worthy as those a year older, and yet the difference is very little and the two ages can probably be very well classed together. It will be found noticeable that there are only seven who grade twelve years of age, but among these seven are those who can, for example, weigh out groceries, use machinery of various kinds, do house work as well as anybody can do it, and who require practically no supervision in doing the things that they have been taught to do. Such are our results as far as we have worked them out.

Now, in the light of all this, we might have the following classification for these children: I believe that the one and two-year-olds probably come under the group that we have always called idiots. These might again be subdivided for those who wish to draw a closer line and use the old expressions into the low grade idiot, the absolutely helpless, probably under one year of mental development, the middle idiot or those who are one year old, those who can help themselves a little, perhaps feed themselves, and the high grade idiots, those who can not only feed themselves, but can discriminate somewhat as to what is good to eat. Then we would, perhaps, have the imbecile group, including the ages from three to seven, again to be sub-divided into the three and four years of age as the low grade imbecile; the five-year group would about be the middle grade imbecile, the six and seven-year group, the high grade imbecile. All the rest would come under the highest group which has been called in a good many places feeble-minded in the specific sense. These could again be sub-divided—the eight and nine-year old into the low grade, the ten-year old, the middle grade, the eleven and twelve-year-old, the high grade. I would like to suggest further that it is extremely desirable that we have a new word instead of “feeble-minded” for this high grade group. Feeble-minded is universally used in this country now to cover the entire range of mental defectives. Our institutions are institutions for the feeble-minded. We need a name for this high grade group for many reasons. First, as suggested, to distinguish it from the whole group when we wish to speak in a specific sense; secondly,



we need it very much in order to make the public understand that there is a special group of children that requires very special attention.

I presume no one in this audience, certainly none of the superintendents of institutions need to be reminded that the public is entirely ignorant of this particular group. Our public school systems are full of them, and yet superintendents and boards of education are struggling to make normal people out of them. One of the most helpful things that we can do would be to distinctly mark out the limits of this class and help the general public to understand that they are a special group and require special treatment,—in institutions when possible, in special classes in public schools, when institutions are out of reach. Two words have been suggested for this group, the one being the word "proximate" with the underlying thought that these children are nearly normal. The other word proposed is a Greek word, the noun from the Greek word meaning foolish, "moronia," and these children might be called "morons" fool or foolish in the English sense exactly describes this group of children. The Century dictionary defines a fool as one who is deficient in judgment, or sense, etc., which is distinctly the group we are working with. I believe the etymology is correct and the derivatives would be easy. We would have moron for the noun, moronia for the condition, moronic for the adjective, and so it would seem to answer every requirement. Furthermore, it will be seen that such a classification as this gives nine classes when we sub-divide it, with ten as the upper limit, the normal child. Of course, we do not go into the question at all to the degree of intellectual capacity of that higher group. We know we have there backward children, and normal children, that is, children who are fully up to the average, and children that are above the average, but from our standpoint those children are all normal, and there is no reason for them to come into our care.

In conclusion I may state one or two points of some interest by way of further explanation, and as the result of our study. We should certainly emphasize here what is known to all of you,

that the old terms of classification, while of interest to physicians, perhaps, are of no practical value to us, and in accordance with this classification it could be made very clear that for instance a microcephalic child might be a moron, an imbecile, or an idiot; a hydrocephalic the same, and so on thru the list. In other words, these words do not help us to know anything about what the child is capable of in the way of training and development—the one thing that we in institutions wish to know, and the one thing that the public is clamoring to know, the one thing that parents ask when they come to us.

I think that we have all felt that of all the old terms of classification, "Mongolian," was the only one that gave us very much of an idea of the grade of the child. It will be interesting in that connection, to note that of all the Mongolians,—fourteen in our institution,—one is age three, nine are four years in mental development, four are of the fifth year, and two in the seventh year. We recognize at the institution that these two have been specially trained and are decidedly above their grade, and we have great fears that when the very special, individual training that they have received, coming as they do from wealthy families, is relaxed for a moment they will fall back in grade. It is clearly seen, then, that on the average a Mongolian is the mental development of a four or five-year-old child. In other words, he is, as we have always said, a middle, or low grade imbecile.

Another point that has interested us greatly is the question of the so-called moral imbecile. We have interpreted this expression very loosely, and included in this group all those children that give trouble because of their inability to either understand the simplest moral law or to conform to it at all. It included, then, all those cases who show marked sexual disturbance, except masturbation which is, perhaps, a mere habit, and thieving, or untruthfulness. The striking thing here is, that of the twenty-three cases of this sort picked out for us by the head of the school department, Mrs. Nash, fifteen are in the nine-year-old group, five in the ten-year-old, two in the eleven, and one in the twelve. I believe that this is not accidental, but is one more

confirmation of the accuracy of the Binet classification, and secondly, it conforms to the psychology of the situation. If we look back for a moment to that much discussed question of the moral imbecile, we find that the best explanation of it is that, as we all know, the child is born with certain instincts, other instincts develop as the years go by until all of those things that are particularly human have had their time and have either developed and become fixed habits of life, or have been modified or conquered. The reason for the overcoming and destroying of such instincts is found in the fact that these instincts have developed when man was in a more primitive condition, and these things were at that time useful to him. For example, before men came to live together under the conditions of modern society, lying and stealing were virtues, and consequently became instinctive; that they are instinctive in us today no one who is frank and honest with himself for a moment doubts. We have all had the impulses to do these things and probably very few of us have escaped becoming for a time at least victims of these instincts. It may be said perhaps without much doubt that we have all been liars and thieves for a short period, at least, in our lives, but fortunately, owing to good training, good environment, we got thru with that period without disgracing ourselves or the family, and we learned to be moral. But it must be remembered that we did learn to become moral, that we overcame these instincts because we were taught and had minds enough to learn what was taught us, to see the consequences, and appreciate the importance of our doing as society prescribes. Had we been lacking in the ability to reason that out, to note cause and effect, etc., we never would have learned the very important lesson.

Now if we are to take our results here literally, and we may for the moment at least take them literally for the sake of argument, we would say this: Those instincts that lead the child to become what we loosely call a moral imbecile, ripen about the age of nine years; now if a child is arrested in his development at just about that time then he is a liar, a thief, a sex pervert, or whatever else he may be, because those instincts are strong in

him, having already come to full maturity, and the reasoning power, the judgment, those faculties or processes which lead him to learn to control those instincts have never developed, and cannot. Had he been arrested in his development a year or two sooner, he would not have been a moral imbecile because the instincts that lead to it had not developed. On the other hand, had his arrest been delayed for two or three years, he would have developed sufficient reasoning power to enable him to overcome and control those instincts, and so again he would not have been a moral imbecile, but the arrest coming at just that critical period of nine, we find him with all those tendencies exceedingly strong and no power of control.

Such are some of the results and inferences from this study. They need very much going over and consideration, but it seemed best to give you the matter as it stands at present in order that your wisdom and judgment may be applied to the problem.



## RETARDATION AND THE MENTAL EXAMINATION OF RETARDED CHILDREN

BY EDMUND B. HUEY, PH. D., LINCOLN, ILL.

G. Stanley Hall has long urged that growth presents the most central problem of life. We are coming to find, as well, that retardations in growth are at the bottom of most of the chief forms of mental abnormality. Retardation is indeed a word of most extensive application. Few of us grow up to our full maturity. Few, even after maturity, keep pace, in all our powers, with our chronological age. The slighter degrees of retardation, however, may well be treated as individual differences in normal individuals. Who, then, are the abnormally retarded?

1. The idiot\*. Whatever his chronological age, his intelligence has remained that of a baby never older than two years.

2. The imbecile, whose mind has never reached the eight-year level.

3. The feeble-minded, proper, with an intelligence that reaches at least eight years, and which in this institution, at least, does not seem to pass the level of twelve years. I have tested most of the brightest children in this state institution of 1300 inmates, and only two have reached the 13 year level. The term feeble-mindedness, if it is to have a specific sense, may well be limited to children of an age-level between eight and a variable upper limit which is low enough to make institution care advisable. This upper limit would then seem to be 12-13, in Illinois, to judge from present practice. It is a little lower in France. At Vineland, Dr. Goddard finds the upper limit to be twelve years, as here:

Binet considers that working people of the Paris region, who can pass the tests of his thirteen-year scale, may be considered normal in intelligence. Indeed, he selects six of the most funda-

\* I use here the Binet classification.

mental and representative of these tests and considers an adult of the above social class and region to be normal if he passes at least four of them—normal, i. e., so far as the intelligence is concerned. And by normal he means to care for himself or herself outside of an institution as a Parisian workingman or woman. He hastens to add, however, that such normality of intelligence may co-exist with an accentuated instability or with irresistible impulsions, or with other pathological symptoms grave enough to necessitate institutional detention. An intelligence, normal to a Parisian or American laborer, would be retarded intelligence if part of the mind of a member of social classes who have more difficult mental work to do—the mind of an attorney or physician, for example. Normality of intelligence is not a fixed strength of intellect to be required of an entire population. By an unconscious selection and sifting the various industrial and professional classes come to have intelligences that center about normals of different heights. Binet suggests here tests which will pass the candidate to service in the least exacting strata of society. I may remark in passing that the application of this scale for such a purpose would render a very great service. How many disasters of mine and railroad, how many accidents of industry, would be eliminated, if safety were never allowed to depend on an employee of subnormal intellect! How many scandals and abuses of military and naval service and of school days would become impossible if defectives were kept from trying to function in levels which are beyond them! How many crimes could be avoided if individuals were prevented from working amid temptations beyond their measurable intellectual strength! Especially, what dangers to the individual himself would thus be avoided. For an individual not able to pass this dead-line of intelligence will be mal-adapted everywhere, except in so far as charitable direction by others may supply what he lacks in power to adapt. In all events, this should be made a dead-line below which propagation should not be permitted.

Beyond this dead-line of feeble-minded or institutional cases, who are the abnormally retarded? And is the intelligence level

still the best gauge or criterion of abnormal retardation? This dead-line is at 12-13 years, practically. But mind grows on to a maturity not complete till in the twenties. Indeed it grows further, normally, in a transformation with the life cycle, to a different character and strength, harmonious with and normal to each period of chronological age. What are the norms and the tests then for the levels of 14, 16, 20, 24 years? And what are the most significant functions to which we shall apply these tests and norms?

It is significant that Binet's scale stops and the institutional dead-line is found just at the dawn of adolescence, at the latter verge of that plateau of growth extending from the second dentition and the last school years on to the age of twelve, the period in which the intellect has its great development. And then with puberty comes the great upheaval of the feelings and instincts, the new consciousness of a new self, and the immense widening of social consciousness and social relationships. Now the problem of life is not the further growth of intelligence so much as the use of what has been grown, to serve and give direction to the feelings. It is now normality of will, of self-assertion and self-criticism, of social sense and attitude, and of emotional control, that must be tested for. And here in this rich but precarious field of functionings are found the next higher rungs of the retardation ladder, naturally with the function of sex playing a prominent part.

The mind that has grown to these levels may be supposed to have grown the structures necessary for all mental functioning, and structural defects, as visible lesions, may usually be left out of account. We are here in the field of psychoneuroses, characterized, as Dubois of Berne has defined them, by "the intervention of mind, of mental representations, in all their symptoms." Psychoses do not exist independently of neuroses; and when we know more of the finer, the subtler kinds of lesions, we shall doubtless find failures of growth in the finer structures to be basal to much that we now call psychosis or psycho-neurosis. Especially, many of these seem to be due to the failure of the

neural structures to grow the last layers of strength necessary to make their functioning safe under strain and stress, to grow to where they will have powers of normal recuperation and resiliency. Tests that will reveal these physiological shortages may be made the key of detection for whole trains of psycho-neurotic tendencies and symptoms. But until physiology more nearly catches up with psychology in this field, and for the purposes of dealing with the cases and classifying the phenomena presented, we are doubtless justified, with Pierre Janet and others, in taking the psychological point of view, and treating of retardation here in terms of the mental relationships which are damaged. But it is a functional psychology that must be used, and it is the shortages that occur in functionings, not in mental contents, that are in point. A clinical psychology is ever a functional psychology. And these retardations reveal themselves prominently in the great functions that are bodily as well as mental, the functions of sex, of alimentation, of locomotion, of respiration, etc. Janet\* urges that in each function there are different parts hierarchically superposed. Some of these parts are very ancient, well organized, and easy, represented usually by organs distinct and specialized. The function of alimentation has digestive secretions, represented by glands functioning easily by means of reflexes. These are lower parts of the function and physiological mainly. But the function of alimentation includes, as well, some higher parts, the prehension of food by mouth and hands, done by organs that are not so peculiar to this function, that serve for many other purposes, and carried out by reflexes that are much less simple and regular than those for the gastric secretions. And then there are still higher parts to this function of alimentation. There is its adaptation to the particular circumstances which exist at the given moment of eating, to the totality of circumstances, outer and inner, in which we happen to be placed when food is in question. Appetite and digestion may go on well enough at home, in quiet, but may go to pieces in the face of a dinner party. The function of sex, in its older, stabler parts, has crystallized in organs and

\* P. Janet: *Qu'est-ce qu'une nervose?* Rev. Scientifique, Jan. 30, '09.



reflex circuits that are complete in themselves and that work, when their higher uses can never be learned. The higher adaptations of this function, from its very use at all with the other sex and especially with socially critical members of the other sex, to its use in guiding to normal social usages in the delicate relationships motivated by the sexual instinct, these may be retarded or impossible though the organs are perfect. Take the function of locomotion. One may have legs and neural adjustments that permit perfect walking. But this function cannot be performed before an audience, or perhaps, across a public square, or when there are onlookers of any sort. The function of speech may be well performed when social factors are not concerned, but may break down more or less completely when some one is to be talked with.

I shall not weary you with examples which could be made interesting only by detailed accounts of the cases. In the clinics of the Salpetriere, last year, I watched a steady stream of these poor people whose intellects would usually pass the Binet tests, but whose functions had never grown to the possibilities of making these higher adaptations, or had grown them so feebly that they were quickly shaken down by some emotional shock or by other vicissitudes of mature life. The parts of functions that are the highest, the most complex and difficult, are those that are last formed, that are most unstable, and that disappear first when catastrophe arrives. And adolescence is the period for the perfecting of these adaptations, or for their arrest. Writing from the point of view of an immense clinical experience, Janet says: "The neuroses appear almost always at the ages in which the organic and mental transformation is the most accentuated. They almost always begin at puberty, they are aggravated at marriage, at the death of parents or intimate friends, after all the changes of career or of position." He says of these individuals that "they have ceased to develop. They rest perpetually at the point of their life in which the malady has seized and fixed them. Parents say in speaking of their son, 'This boy is thirty years old but in reality we cannot think it. He has kept the at-

titude, the manners, the ideas, the character that he had at seventeen years, when he commenced his trouble; one would say that mentally he has not grown up." "If one will," Janet adds, "understand by the word 'evolution' the fact that a living being is transformed continually to adapt himself to new circumstances, that he is without ceasing in course of developing and perfecting, then the neuroses are troubles or arrests in the evolution of functions."

I have been speaking of the psychoses and neuroses that may be classed under the broad terms of neurasthenia and psychasthenia, and when dissociation is prominent, of hysteria. The accidents and deteriorations that mark the crises of these conditions, if they become diseases, are apt to come in adult life, and we forget the child history. But though even a sound organism may be thrown back, by great over-stress, to the condition of neurasthenia or hysteria, just as any person may be goaded to insanity, yet there seems to be no doubt that most of the chronic cases stopped short of full development to maturity, and are cases of retardation. These children are impressionable and emotional; unstable, and socially out of harmony; over-dependent and fawning, or domineering and stubborn; over-scrupulous and finical, self-conscious and egotistical, or self-effacing and over-timed. But in general the defect is one of will, of completed action in rapport with the widening demands of maturing life. Complete action is the most difficult and highest function, Janet urges. These children have grown to know and have grown to dream. But in a hundred forms of aboulia they stop short of adaptive, completed doing. And then, among the dangers of the growth period from twelve to maturity, are the tendencies to arrests of the dementia praecox kind. Here we have, according to Adolph Meyer\* and an increasing number of alienists, in the bulk of the cases a deterioration of habits "partly due to developmental defects of the mental endowment," and in part, "to the clashing of instincts and to progressively faulty modes of meeting dif-

\* Adolph Meyer: Preventive Mental Hygiene. The Psych. Clinic, June 15, 1908, PP. 89-101. The various quotations are from Meyer.

ficulties, and the disability of a proper balance of anabolism and catabolism which they entail." Apparently the mind here arrests itself by the accentuation of certain habits which block further progress. Many of the cases are, in the preliminary period, over-quiet, seclusive, shy, retiring, dreamy, given to sexual or other ruminations, live with their mind turned inward, to use terms that appear in Meyer's case histories. There may be a "lost sense of the real, abnormal satisfaction in mere dreaming and good resolutions," a covering up and brooding over failures, "a superficial moralizing and self-deception," a tendency to drift "into fantastic ideas which cannot possibly be put to the test of action." All this is at the expense of really fruitful activity, which tends to appear as insignificant to the patient in comparison with what he regards as far loftier achievements. Thus there is developed an ever widening cleavage between mere thought-life and the life of actual application such as would bring with it the corrections found in concrete experience. Then, under some strain which a normal person would be prepared for, a sufficiently weakened and sensitive individual will react with "the manifestations of dementia praecox. Unfinished or chronically sub-efficient action," "a progressive incongruity in meeting the inevitably complex demands of the higher instincts," this is the formula of the disease.

These incongruities of development, appearing very often "in pupils of relatively good endowment," often enough cause a merely temporary slump of invalidism, which is nature's warning that the child must be guided to a saner level of thinking and living; a level in which can be furnished opportunities for doing and accomplishing simple and enjoyable things," making less tempting the "mere dreams of doing and accomplishing things." When we realize that, according to Meyer's estimate, thirty per cent. of admissions to insane hospitals are of the dementia praecox class, it becomes important to consider with him what early examination and proper hygiene may do in the way of preventing the later accidents of deterioration. And we need to

remember, too, that there is much of this kind of arrest which cripples without producing insanity.

I have not time or sufficient clinical experience to discuss here the adolescent defects which lead on to manic-depressive and to still other forms of insanity. It is evident enough that at least a large number of cases show but an accentuation, in the stresses of mature life, of defective balance and of instability of the feeling life that were products of faulty growth. As Meyer remarked, in effect, in a recent Chicago address, the neuroses of neurasthenia are no insurance against insanity. We know, too, that a certain number of hysteria cases develop the deteriorations of dementia. And we know, as well, that the instability and irresponsible reactions shown by many of our high grade cases of feeble-mindedness often lead on directly into insanity. Indeed the fact, if we accept Tredgold's recent estimate, that "the predisposition to insanity in the feeble-minded is twenty-six times that of the ordinary population," and that "close on ten per cent. of the feeble-minded have a definite insane predisposition," leads us to more than suspect that the arrests of development that fill such institutions as this, grade insensibly over into those that send thousands into hospitals for the insane.

We have, then, the higher grade feeble-minded of the type (1) whose chief defect is in the intelligence, shading over in their higher degrees to the pupils who in Dr. Cornell's\* terminology are normal, "not tainted," but "dull." We have them (2) of the type when chief defect is in the will and in the social adaptation of their functions, shading over into the neurasthenia and, on the side of emotional control and dissociation, the hystericals. We have them (3) of the type whose thought fails to take account of the concrete tests of action, shading over into the cases which may develop the bizarre vagaries of dementia praecox. (4) We have the type which in the higher grades clearly shows its kinships with mania, melancholia, and circular insanity. We may also have to trace a type (5) that tends to give us our criminals and moral degenerates.

\*Walter S. Cornell, M. D.; *Mentally Defective Children in the Public Schools*. Psych. Clinic, May 15, 1908. PP. 75-86.

The problem for all these grades of defect and abnormal tendency is much the same. It is one of determining the mental level of the child's capacity, actual and potential, and of adapting his environment and his activities to that level. The conception of mental levels is not one that is peculiar to Binet. Janet has long urged that the essential fact of the functional neuroses is the inability to reach or to safely maintain normal levels of functioning. For the lower, grosser levels of the idiot, imbecile, and feeble-minded, we create the graduated environment levels of our institutions. For the higher, but still retarded levels that are struggling along in our schools and homes, there must be the more difficult but still possible estimation of level, and the prescription of such activities, in school and work and play and social life, as will make the most of whatever the mind may be. As Meyer urges, "every person can do something well and take a satisfaction in doing it, and that this satisfaction in something done is to be valued as ten times greater than the satisfaction taken in mere thought or imagination however lofty." What a god-send to thousands of broken and misfit lives such a message would have been if wisely taught in time.

To make possible such mental examinations and to work out such a mental hygiene, so sadly needed in our schools and colleges especially, it is necessary (1) that in our insane hospitals, and in research departments connected, if possible, with clinics for functional nervous diseases, we have continued careful psychological study of the cases, and especially of the child history of the cases. We must know better than these yet make it possible to know, the early signs of dangerous tendency; and then (2) we must work out, especially in departments of research connected with the public schools and with such institutions as this, the tests and forms for a far more complete mental description than is given by the Binet scale or than is available anywhere as yet. We have in the Binet system and its employment in institutions for the feeble-minded a most practical and immediately helpful means of estimating and thus

of caring for the grosser levels of retardation. The idea embodied in this scale, indeed, amounts to an important discovery, and the scale admits of almost indefinite expansion and refinement. After all, however, it measures mainly one function, and the mind is made of many. We have begun here with the intellect. But we have seen how much more is involved in later retardations. The other functions are demanding study, even in the institution children. And we face the problem, the necessity, of teasing out in mind the various functions which are basal and primary, the imperfect development and insufficient exercise of which may entail serious consequences. In the face of the cases and of the problems of mental hygiene, all workers realize that there must be a re-estimation of psychological values. Theoretical psychology goes on after its own gods, but as for us we are here to serve men. The growing alliance of psychology with medicine is significant of the new search, on both sides, for those things in lives which make a difference when they go wrong; for those functions in mind which are counterparts of entities, which show parallel traces in autopsies even or in tendencies to disease, to crimes, to perversion, and to other maladaptations.

What are the functions to be tested, beyond the intelligence? First we know that movement and the control of movement is one. We are indeed already provided with some good tests of this function, though standard norms are yet to be established. We know that attention is somehow fundamental, that normal grip that a mind takes upon itself in holding down to an adaptation called for; and we know that attention is of the essence of will. We are making progress, too, with the measurement of the attention, and already have some valuable tests. The function of synthesis, of mentally spanning numerous or complex elements, is in part identical with the power of attention, but only in part. Can the patient keep track of the score at a ball game, make plays that he knows how to make in a game of cards, hold a row of numbers or objects in order till he can give an account of them? It is not merely to have attention power to ignore extra or distracting factors, but synthesizing power to face and use

them all in getting a result. Emotivity, in Janet's fruitful use of the term for the general tendency to interrupt adaptations by mal-adapted phenomena of confusion, emotion, and derivation, is the opposite of the power of synthesis. It is one of the most fundamental conditions in neurasthenia and hysteria.

The function of feeling, with its phases of susceptibility to pleasure and pain through the various interests, notably the play and art interests, this we are finding to be quite different from emotion and emotivity. New means of testing this side of life are recently being developed and it is not so impossible a field as it once seemed. Learning, memory, and the ability to make report, together form a practical function of the greatest importance. Reasoning, just the intelligence made articulate by the use of general rules and abstract conceptions, is to be examined as a development of the intelligence. Then we have the function of forming ideals and estimating values. We have the different but not so hopeless problem of temperament and attitude. And most important of all from the point of view of making mental descriptions intelligible, we have to take account of the self-estimations and self-relationships which make up the social phases of mind and which include the bases of morals and religion. In certain cases certainly, the characteristics of association and the train of thought become of extreme importance; or the orientation in space and time. In brief, there must be (1) the choice of functions; (2) the choice of tests for each; (3) the selection of lines of supplementary observation and inquiry as to each function; (4) the establishment of normals for age levels to maturity. The means and forms for making a scientifically verifiable account of any mind, of a school child or of you or me, that is the object. This science of the individual is already well begun. It must be pushed on step by step until we can do for all functions and ages what we already can do for some.

To conclude my paper, for there is not time to develop details of such a mental examination, we need to recall, that while feeble-mindedness stops at twelve or thirteen, retardations occur continuously on up the years of growth to maturity; that the

higher level retardations should especially concern us, since they cripple the individuals who have a part to play in society; that these higher retardations have a close kinship, as arrests of growth, with feeble-mindedness on the one hand and with adult forms of deterioration on the other; that they are at bottom based on other functions than the intelligence, and that, therefore, the Binet scale leaves us still without resource for their detection and measurement; that the Binet scale of the intelligence, worked out through years of patient experimenting by a research department in Paris, and already a most valuable resource in institutions, is but typical of work to be expected and sought from research departments in this country, for the other functions and for the higher age levels. These departments should be encouraged to prosecute this work which will eventually give us, for the first time in history, a scientific as well as practical means of measuring and describing mind; that research departments, connected with the insane hospitals and clinics for nervous diseases should co-operate with those in institutions for the feeble-minded, both in working out a scientifically valid mental examination and in the careful study of case histories which may reveal to us the lines of dangerous tendency and of preventive hygiene.

Be sure that defectives above the mental level of twelve years are the trouble-makers and the trouble-receivers. They are presenting the most serious of the problems of society. We must care for them. Very many of the court cases will easily be removed from the scene of disturbance if the Binet scale is applied. Far more criminals than we realize would fail to pass the thirteen-year dead-line and would quietly take their places as institution inmates. Apply this scale that we already have, with authority and warranted confidence, and immense relief would be felt in the care of delinquency and of unfortunate social conditions, at once. But at the same time let us realize the magnitude of the problem presented by the still higher grades. Like birds that feel the strength of wings and fly away, institution children wander from the nest as they reach a mentality of twelve years. Two children of just this grade have run away from this



institution within a few weeks. Be sure that the thirteen-year fourteen-year, fifteen-year levels of defectives are as numerous as the nine and ten-year. They are out, battling a hard fight at unequal odds. When we shall have prepared ourselves to recognize their condition and to ameliorate it as may be possible, we shall be rendering an untold service to society, of which psychology and medicine will some day be proud.



## THE MENTALLY DEFECTIVE AND THE COURTS

BY WILLIAM HEALY, M. D.,

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In all the extensive discussion which appears in text books and professional and lay periodicals concerning the relationship between legal responsibility and legal insanity, the amount of attention given to the mental defective, as such, is inexcusably slight. This same tendency was observed at a recent notable gathering of physicians and lawyers in Chicago which met for the discussion of criminal responsibility, where there was no place on the program for amentia. Yet, so far as the criminal courts themselves are concerned, in their daily and practical working, the proportionate number of cases of mental defect is vastly greater than the number of the insane cases. This latter fact may be shown in various ways.

In the voluminous reports of the British Royal Commission for the care and control of the feeble-minded, we find evidence that they undertook to look somewhat into the question of the relationship of feeble-mindedness to criminality. It seems that, with the help of ordinary rough and ready measures for estimating mentality, they glanced over some 2,300 prisoners and came at once to the conclusion that even by such methods they could detect that at least ten per cent. were feeble-minded. Then J. M. Rhodes, an English visiting justice, published an article in the British Medical Journal of 1908, entitled, *The Mentally Defective in Prison*. He speaks directly to the medical profession and asks them what they think it means when, out of 182,000 convictions in 1906, 107,000 had been previously convicted and of these latter no less than 10,000, or six per cent. had been convicted more than twenty times before. Some are specialists, he says, always stealing fowls, ladders, barrels, etc. He puts the question to the medical profession, Is this your business or is it ours; are these people mentally competent or are they not? It

appears, too, that out of this 182,000, 29,000 were unable to read or write at all and only 9,200 were able to read and write well. I dwell on these foreign statistics because we have nothing in America satisfactorily worked up on this subject.

Dr. Donkin, an English prison administrator, says that a large proportion of major criminals are feeble-minded, and ten to fifteen per cent. of minor offenders. Sutherland, in his recent work, *Recidivism*, maintains that one-third of criminal repeaters are pathological, suffering from mental warp, instability, and feeble-mindedness and that two-thirds of petty offenders are pathological in the same way.

In England the Inebriates Act causes the inebriate class of offenders to be placed in special reformatories. Of these, the same Royal Commission finds two per cent. insane and sixty per cent. mentally defective in some degree. They quote from Carswell, "Inebriety is more an incident of the mental life of the mentally defective than the cause of the mental condition."

Lacking determinative figures for the United States, I have, myself, consulted, among others, the well known penologist, John L. Whitman. He tells me he is certain that a large percentage of the prisoners which he has seen are mental defectives. As far as recidivism is concerned, it seems also that we have no careful statistics in America, but out of 12,000 admissions to the House of Correction in Chicago during 1908, only sixty per cent. even made the claim that it was their first time in that institution. Fourteen per cent. admitted having been in that place over three times and there are individuals who have been inmates over two hundred times.

So far as the work of our own institute is concerned, we are studying individuals more or less intensively and have as yet no comparative statistics to offer. But it is worth mentioning that during the regular course of our work during last year in one court, we saw sixty-eight criminalistic young people who were distinctly below the normal in mental capacity. Study shows thirty-two of these to be feeble-minded, decidedly of the institutional class, and thirty-six of a grade higher, but still thoroughly

subnormal. Their delinquencies run as follows: stealing, 23; sexual offenses, girls, 11; boys, 10; truancy, 7; running away from home, 18; general incorrigibles, 11; drunk, 2; begging, 1; homicidal assault, 1; fighting, 2. This is a fair sample of cases to be met with in almost any criminal court.

For the sake of understanding types, the following short summaries are worthy of consideration:

(a) This is a boy who has been previously in an institution for mental defectives. He came back and lived in one of the crowded city streets, becoming the terror of the neighborhood. He is extremely dirty and has at home no one capable of taking care of him. He commits various depredations and is arrested time and time again. He finally takes up a carving knife and attacks his father—then, after the police bring him in, he is taken to the Detention Hospital and finally sent to an insane asylum.

(b) Another boy who was formerly in an institution has been taken out of it on account of the clamor of his relatives. He then will not live with his family, partly on account of a disreputable father, and is just able to earn a living for himself outside. He was an assistant to a milk dealer and got along pretty well until one day some one gave him a little whiskey. He drank it and within an hour committed a miserable homosexual assault on a little boy who was going to the place for milk.

(c) This is a boy who was formerly in an institution and then sent home. His people are careless in their life. The father is a drunkard and the boy does not like his family. In fact, he will not live with them and rather than do so sleeps out anywhere and gets his meals any way he can. The police have spent an enormous amount of time in picking this boy up and sending him to different places.

(d) This is a girl who is feeble minded, having, however, epilepsy and consequently not being receivable in our own state institution. Before there was any question of her reception in an institution she was a terrible sexual offender, partly, of course, on account of lack of watching in her miserable home. She would deliberately invite men into the house. At thirteen years of age she became pregnant, had a child and through a successful

Caesarian operation the child lives and the girl lives, and is still not in an institution. Whole weeks of work have been spent by competent people on the different phases of this case.

(e) This is the case of a man who was hanged in the state of Illinois the other day for a most wanton murder, including handling of the internal organs of his female victim, which he confessed he committed. As a boy he lived in an eastern state where he was well recognized as epileptic and mentally defective. There he was once sent to the reformatory, but after a time was pardoned by the governor because of his mentality. Although there was much endeavor in school and at home to teach him, he was never able to learn to read and write. He was a steady, dull worker. Though he lived in a prohibition community, he was able to get all the liquor that he wanted. His sexual tendencies were excessive. It is possible that he committed other murders of the same kind on women victims, which occurred in the vicinity. He himself is not sure whether he did so or not. However, he tells me that he certainly was with another woman when she was ground to pieces by a railroad train and he was out of his head so much he does not know whether he previously murdered her or not. It was simply the case of a feeble-minded man, well known in his own family to be irresponsible and peculiar, who was allowed to live his own life unrestrained and, as I say, even to procure large quantities of liquor in a prohibition community. The state finally had an expensive trial and the man was hanged.

This is not the place to go into any lengthy discussion of criminal responsibility, but with regard to that vexed question, I want to make clear a point or two. In the first place, I insist that the whole problem is without any clear definition, having not nearly as much clearness as it might have if specialists would get together and work out careful statements of what is already well known on certain phases of the subject.

Particularly unsatisfactory is the lack of understanding by the legal profession and the laity of those higher degrees of amentia and those deteriorations of intellect in epileptics which

leave the person in a highly inflammable state of mind morally. These individuals, of course, are some of the most dangerous members of the community because of their very irresponsibility under certain circumstances which leads them, by their really uncontrollable impulses to commit some of the most dastardly crimes. Now I am making no plea for the judicial acquittal of such individuals, nor is it even clear to me that, for the sake of society, capital punishment itself may not be justified in some cases where the individual may have periods of temporary irresponsibility. But for the sake of clarification of the whole subject, which shall tend to the diminution of legal quibbling and the bringing of legal decisions more in line with what is definitely accredited now by scientific students of abnormal psychology, I believe that much could be gained by getting an understanding of the mental states of defectives, particularly of the higher grade and of epileptics, clearly before the legal profession. How such cases stand now with regard to judicial decisions we can see plainly from the following paragraphs taken from the report of a decision, (*Commonwealth vs. Snyder*, 73 Atl R., 910,) by the supreme court of Pennsylvania. In this case of homicide "there were offers of evidence to show that the defendant, a young man who had passed his majority, in the early years of his life was subject to frequent attacks of convulsions or spasms, which for the time being rendered him unconscious; that after his twelfth year the attacks became less frequent, much milder in form, never attended with unconsciousness; that he was still subject to these attacks in modified form and that he suffered one as recently as the day before the crime was committed with which he was charged. This evidence was to be followed with medical expert opinions, predicated on the facts proposed to be shown as to the character and frequency of these attacks, that they were epileptic seizures, and further, that, because of this infirmity and the added circumstance, already appearing in the evidence, that the defendant had been drinking during the afternoon and evening of the occurrence, if it was he who did the killing, he was at the time acting under an uncontrollable epileptic impulse

during which it was impossible for him to distinguish right from wrong, and during which it was impossible for him to deliberate or consider the nature and consequence of his act.

"The court holds that these offers of evidence were properly rejected. The offers, it says, associated and combined two mental conditions which need always to be clearly distinguished where the effort is to refer an illegal act to their joint influences—insanity and intoxication. The former excuses the act. The latter at most can only mitigate its criminality. The unsoundness that excuses must be so great as to control the will of the subject and deprive him of free moral action. When this mental condition has been shown, the defense is complete and absolute, and it helps nothing to show in addition that the unfortunate subject was intoxicated as well. When the unsoundness is not of the degree which exempts from legal liability, it helps nothing to show intoxication by way of excusing.

"It may be a physiological fact that one effect of epilepsy is to produce a state of mind easily excited by provocation, and that this state of mind is intensified by intoxication to a degree that would be unexpected in one not epileptic from the same amount of drink; but except as the epilepsy can be shown to have resulted in an unsoundness, which by itself would excuse an act, it can not become a factor in determining the question of guilt or innocence. The epileptic who is not shown to be insane can no more escape liability for his acts done while intoxicated than can one not so affected. Were it otherwise, it would follow that in every case where intoxication is set up a necessary inquiry would be the susceptibility of the party to intoxicating influence; and the one question of guilt would be made to depend on peculiarity of individual temperament as affected by drink. The law knows no such doctrine. It does not divide men into classes according to temperament or intellect, judging some more favorably than others, but it judges all alike."

The last quoted paragraph of this decision is curiously at variance with the contention of authorities like Grasset, who in his thoughtful work on *The Semi-Responsibles* insists that no

wall can be erected setting off on one hand the sane and on the other hand the insane. As we know full well from observing the temporary insanities of epileptics and others, border-line individuals may be at one time in one class and at another time in another class, and then there are persons whose mental condition is always such that it is hard to classify them. We all surely believe that thoroughly criminalistic irresponsibles, under which class I know and you know some of the greatest desperadoes fall, for the protection of society should be dealt with summarily by the law whether such treatment consists in life incarceration or, what sometimes seems kinder, capital punishment. If it is true that the law does not divide men into classes according to temperament or intellect then the law is not in accord with common sense or scientifically demonstrable truth. Isn't it a kind of tender-mindedness which overlooks the prime needs of society's self-protection, which makes us unwilling to say that an irresponsible person is ever to be sentenced to the full extent of the law? The fact is, anyhow, that frequently by jury verdict, such individuals are being definitively sentenced to punishment and the courts either through lack of clear definition of the point or through unwillingness to face the question squarely take no cognizance of the inconsistency of the finding with what the law lays down as one of its main principles, namely, the non-punishment of the irresponsible, and so leaves decisions and legal text books steeped in vagueness with regard to the matter.

Without worshipping the fetish of the inerrancy of jury trials, I am, however, among those who think that juries often decide criminal cases according to the dictates of their common sense and for what they believe to be the good of society, irrespective of whether the indicted is from a psychological standpoint responsible or irresponsible. And no doubt judges, when they have power to influence verdicts, are inclined to do the same, but this fact brings us up again against the unnecessary inconsistencies of the situation. If it is true that the world believes that under certain desperate circumstances the irresponsibles ought sometimes to be legally sentenced, then the law should



freely acknowledge the validity of this opinion dictated by public common sense. That would be one step towards removing the haze over the whole field under discussion. Possibly most seekers for a definition or criminal responsibility turn to Mercier, but I am not at all sure that the old school way, which he represents, of looking at the subject in a purely philosophical way will ever help us to develop methods for measuring the power of self-control which is, of course, the kernel of the question of responsibility. Perhaps the most valued legal writer of criminal responsibility has been Sir Fitz James Stephen and he takes the view that the power of self-control "must mean a power to attend to distant motives and general principles of conduct and to connect them rationally with the particular act under consideration." Mercier, however, expressly states that the power of self-control, by which he means, "the power of forgoing immediate pleasure for the sake of greater advantage in the future" is, on the contrary, not a matter of rational procedure—it is a matter of will, not of reasoning. The lack of it involves not stupidity, but vice. Now it seems clear to me that such an abstract point as this can be argued forever. Just as difficult is another statement by Mercier which, of course, in its way, is sheer common sense, namely, that a "person may know that a thing is wrong without knowing how wrong it is."

The very impotency of philosophical writers to determine by general theory any method of measuring self-control is perhaps what has led them to conclude that the best way of getting a decision is to turn the whole question in a given case over to a jury. Mercier thinks that this is the best disposition to be made of a case. Fair though this procedure might have been in the past, I ask you this, how much can even an intelligent lay jury, if it is to decide the case completely, on the question of responsibility in the light of present knowledge, be expected to know about the subject without hours and hours of instruction in the facts and findings of abnormal psychology? Why, it's an axiom, even among practicing lawyers, that nobody can tell what a jury is going to do. Those representing a weak case are some-

times surprised at the verdict going their way. The well known saying is, that, as it stands now, a jury trial is a lottery.

As a help towards clarification of this situation, I want to offer the thought to this conference that the mental states of the feeble-minded and epileptic are open to investigation by psychologists and that the surest possible ground for the establishment of a rational legal procedure will be the ascertainment of the general laws of their mentality and such characteristic reactions as may be tested for the sake of diagnosis. I wonder if a study of the apperceptive abilities would not be a fruitful field in this connection. A feeble-minded person has an impulse which he yields to. Now, abstractly and apart from the moment of impulsion, he might be able to tell you that it was wrong, just as my own cases I have cited to you, mildly asserted that they had done wrong, but due to the weakness of the apperceptive ability, by virtue of which one realizes the social relationships of one's acts, they have, under the stress of what to the normal being would be a very slight cause for the overthrow of reason, failed to exercise normal moral control. Present methods of psychological examination together with studies of the individual's history ought to be able to determine the value of this particular suggestion, whether responsibility should not perhaps be regarded as varying more or less directly with mentality estimated in terms of apperceptive abilities. There are many angles to this whole question. There are some curious anomalies in court procedure where mental defectives are involved which show again the great need of a clear understanding of mental states and the duty which society owes to itself in taking cognizance of them. For instance, in many states, courts can send young defectives with criminalistic tendencies to the reformatory type of institution or to a prison, but can not regard them as individuals needing care and protection and so can not send them, without guardian's consent, to a training school for the feeble-minded. An accused feeble-minded person, except in a juvenile court where the judge makes a speciality of taking into account the personality and needs of the offender,

has practically no cognizance taken of his mental status. He is sentenced and serves his time and is rearrested and sentenced all over again, time after time, it may be, and often is without any inquiry into his mentality. Without special investigation, which, of course, is rare in criminal courts as shown by the considerable proportion of feeble-minded in our prisons, the mental ability of the indicted is taken as a matter of course. Very curiously, however, a plaintiff, if a witness, must prove mental ability through the power to withstand cross examination. Let a feeble-minded person be a plaintiff and his or her testimony is too weak to be accepted; any lawyer can twist it about. As a very experienced lawyer put it to me the other day, feeble-minded persons who have suffered personal wrongs are practically without recourse unless outside testimony is overwhelming to the extent that it almost never is. In my work, I find that probation officers have had many experiences of this kind—both boys and girls are used for sexual offenses and as aids in thieving, etc., while the conviction of the culpable party on account of the low mentality of the victim is most rare.

So far as routine estimation of the mentality and responsibility of prisoners under indictment or under sentence is concerned, that is practically nil. Prison physicians, very few of them trained in neurology to say nothing about psychology, are not usually competent nor have they official incentive to make thorough study on this point, which might show us definitely the proportionate importance of the subject.

In all parts of this paper I want to lay particular stress upon the necessity for the study of the type of defective who is high enough in grade to come under the Royal Commission's definition of feeble-minded, namely, a mental defective who is capable of earning a living under favorable circumstances, but who is incapable of competing on equal terms with his fellows or of managing himself or his affairs with ordinary prudence. I insist that this individual by very reason of his mental defect has not the normal power of moral or social inhibition which leads others to conform to the rules of society. The point is this that those experienced with this class know full well that under some slight

stress, such as access of sexual feeling, or a small amount of stimulant or slight provocation to anger, such a high grade feeble-minded person readily oversteps the laws. Now what is there that may be done at once with regard to helping forward better understanding of the needs of society in facing this situation of the relationship of legal procedure to mental defect? I want to emphasize that, first of all, we need a standard definition of the general subject of feeble-mindedness and its subdivisions. Every science that has developed to any extent has found it necessary to clearly define itself. But, in the definition of *amentia*, its synonyms and subdivisions, for the layman or lawyer there is nothing but appalling confusion. Consider the definitions: according to Webster, an idiot is a human being destitute of the ordinary intellectual powers. Dorland, a standard medical dictionary writer, says that idiocy is complete congenital imbecility, extreme dementia. Peterson, in his well known text book, says in one place that the term idiocy itself is generic, including as it does all degrees of mental impairment in early life, and in another place that it means the lowest degree of mental disability. Imbecility according to Webster, means weakness of mind, etc. He says this term is used specifically to denote natural weakness of the mental faculties, affecting one's power to act reasonably or intelligently. Dorland says that it means feebleness of mind congenital or acquired. Peterson, on the other hand, maintains that it means a higher degree of mental disability than idiocy. For feeble-mindedness we have the following definitions: Webster—weak in intellectual power, imbecile, etc. Dorland, in the 1906 edition of his work, did not find it worth while to include this term. Peterson says that it means the cases of idiocy in which the psychic faculties have their highest development. Then, as to the term *amentia*, Webster says it means imbecility, total want of understanding. Dorland says that it means absence of the intellect, idiocy. Peterson does not give it. On the other hand this term is the main title of the most modern text book and is used to cover all phases of mental defect as distinguished from mental disease, namely, insanity, in its medical sense.

Then as to our special point, namely, the relationship of the legal term insanity to mental defect, namely, feeble-mindedness. Webster gives no synonyms of insanity covering feeble-mindedness. Dorland is not clear on the point. Peterson, on the contrary, says that insanity is a manifestation in language or conduct of disease or defect of the brain; and under the head of mental diseases, contrary to psychiatric works in general, he has in his chapter on idiocy, the word as title used in its generic sense. Although, in another place in this same work he shows what confusion his method leads to by saying that there are two divisions in institutional patients—those with diseased brains and those with defective brains, the insane proper and the idiots. Then, as to specifically legal definitions of insanity, there are many and probably Webster is as good as any. He says legal insanity is "such a mental condition as, either from the existence of delusions or from incapacity to distinguish between right and wrong with regard to any matter under action, does away with individual responsibility." Or take the Criminal Code in the statutes of our own state and we find this anomalous statement. "A person shall be considered of sound mind who is neither an idiot or a lunatic, nor affected by insanity." And elsewhere, "An idiot shall not be found guilty or punished for any crime or misdemeanor with which he may be charged."

What a confused mess this all is. Dictionaries and text books contradict each other and evidently in the law the word insanity is altogether overburdened with the meaning supplied to it which will neither be agreed to by leading dictionaries nor by prominent text books. This confusion, you, at this conference, who are the leading authorities on this subject in America should at once take to heart. It certainly must be an easy matter to diminish the inconsistencies of given definitions, which must in themselves lead in turn to great vagueness about the subject in the legal world. The Royal Commission has offered definitions which you well know, but which are unfortunately based, like much of the Kraepelin classification of insanity, on the outcome of the case. It seems certain to me that it is your duty to appoint

a committee to authoritatively decide upon and publish in medical journals and dictionaries the meanings which the various terms connected with mental defect shall properly have and hold.

The next main point is that after definition comes the need, which is just as great, for the clear determination of the methods of diagnosis. It is easy to see that the two things, definition and diagnosis, must be inextricably mixed up in any logical classification of the subject. Definitions, like diagnoses, must be upon a dynamic basis—if a person has this or that capacity he belongs to this or that class. Since the work of the ardent anthropometrists has fallen so flat, at least in this country, we have ceased to judge by external signs and it is clear that the psychologists who are attacking the most vital problems of human nature must come to the rescue. They must step in and formulate methods for the evaluation of mental capacities. Diagnoses, like the Royal Commission definitions, based on what the individual can ultimately or under the most favorable circumstances do for himself, will not suffice in making of the immediate estimation which is necessary for court work. Of course, I know very well the beginnings which have been made in this country through the limited use of Binet's findings of what a normal individual can mentally accomplish at successive ages of childhood. I would urge upon you that psychologists should work with practical institutional men everywhere in an endeavor to try out these tests and add to them or alter them for the purpose of standardizing a measuring scale of human mental capacities which will be ready for use by any one with competent training who may need to pass judgment on mentality.

We know from many signs that the legal profession is waking up in these matters and probably, if authoritative material were offered on these points for its consideration, would shake of its "dogmatic slumbers" and rejoice in clearer formulations of its problems. One of the best signs of the times is the organization of the American Institute of Criminal Law and Criminology, which is looking forward to the results of just such

work as I urge upon you. I bespeak your hearty co-operation with that Institute and its scholarly journal.

You have asked me to this conference to address you upon the relationship of the mental defective to legal procedure. I come full tilt at you in return and insist that there will be very little betterment in the inconsistent and often deplorable situation until you yourselves, as authorities, appoint a commission of your best men to define your subject and to determine and evaluate generally usable diagnostic tests. You should do this for the development of your own science and on the other hand there is a deep need of it in educational circles and especially in the criminal courts.

#### DISCUSSION

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Dr. Rogers: One point in connection with Dr. Healy's paper: I presume we all have been up against this proposition of inability to punish crimes against feeble-minded girls, because of the lack of proper testimony. I have in mind three cases that came to my knowledge during the last four years. In one case it was well known that the crime had been committed but both the county attorney and the assistant attorney general advised against action because the only definite incriminating testimony would have been that of the feeble-minded girl. She afterwards gave birth to a child. In another case which was recently tried for rape in a city in Minnesota, the defendant pleaded guilty and the testimony as to the mental status of the aggrieved person was based upon the fact of a previous admission to the school for feeble-minded and a medical examination of the girl at the time of the trial. Her attendant at the school, upon cross examination, admitted certain industrial capacity, which, while very limited, was made so much of by the defense, that the jury was confused and finally disagreed and the case was discharged. On a re-trial, at my suggestion, a different plan was followed. The early his-

tory of the girl was brought into evidence upon the testimony of the people who knew her in childhood. It was shown that she was not able to attend school because of mental deficiency and her incapacity as compared with other children was easily shown. I then took the stand and testified as to her mental capacity, as shown by such testimony. The jury rendered a verdict accordingly. This is the only way that the mental deficiency of the borderland cases can be shown at the present time to the satisfaction of laymen. A system of psychological tests that are approximately sound and correct would be a wonderful help in medical jurisprudence, when such cases are before the court and these are the cases that are most apt to be involved in criminal trial for sexual offense.

Mr. Butler: I want to express my appreciation of the facts that were presented by Doctor Healy and of the important conclusion which to my mind he brought out. Those of us who see mental defects in their various stages and under different conditions realize, with all their good work, how inadequate the various branches of public institution work are. To my mind, all of these great institutions that are caring for public wards are but branches of one whole; they are all institutions of the state for the treatment of those who are there. They are also educational institutions. I feel that the public does not recognize the scope of these institutions. It does not make any difference whether we consider a school for the deaf, or for the feeble-minded; a hospital for the insane, an industrial school, reformatory or prison; the whole question is an educational one. Taking one or two points to which Doctor Healy referred: I remember, very well, when an officer, on a trip to a certain prison, brought with him two men tried at some term of court, convicted and sentenced. Both were insane. Probably they were at the time they committed the offense. Both remained in the institution during their term and were discharged. I recall a man in a certain prison, in this country, who was tried and sentenced for rape. He served his term and was discharged. He was insane when received. Eleven days after his discharge he



was returned for committing another offense of the same kind and he is still in that institution. We know that in all of our institutions for the treatment of offenders, whether they be institutions for young men, young women, or prisons for older persons, a very large number of the population are defectives. In one institution, a reformatory of which I know, there have been two murders of one inmate by another within the last three or four years. In each instance the assailant was feeble-minded. We find great difficulty in all our cities in disposing properly of these cases. Before the courts there seems to be no place for these persons, unless they are insane. The only possible chance is to have them committed to a correctional institution. In some of our institutions we have had very intelligent men, both as superintendents and as medical officers. Some are unusually expert and have great ability and a desire to advance science. It is well known that at the New York state reformatory at Elmira, when Dr. Wey was the medical officer and Professor Bates, a well known specialist, was principal of schools, Mr. Brockway had a very careful test made of the population. By referring to records we find that more than twenty per cent. of the prisoners were mental defectives and the population of the Elmira reformatory has run many years from twelve, to fifteen hundred. Most of our American statistics on these subjects are worthless, but I think the figures from Elmira will stand. I have checked up many thousands of inmates in the Indiana institutions and compared them with New York, but find very few discrepancies. I believe that Doctor Healy has given us some very helpful suggestions in the way of determining who are capable of self-control and who are not; in suggesting definitions which can be used, and also in taking a census of the mental defectives of a state. In that connection, Dr. Davenport's paper comes along the same line. I am very glad to hear him refer to the necessity of some sort of care and control of the feeble-minded women. In some of our states, feeble-minded women under forty-five years of age are made public charges and it is interesting to note results. I recall five feeble-minded poor asylum inmates. These

five feeble-minded women were the mothers of nineteen children, fifteen of which became inmates of public institutions. It is known that these fifteen have spent 156 years in public institutions and seven of them are still there at an average annual cost of upwards of a thousand dollars. Along with the question of feeble-minded women comes the announcement in our state of an improved marriage law. In our state the clerk, before issuing licenses, has to be satisfied that neither of the parties desiring to contract marriage is an imbecile, epileptic or of unsound mind, or affected with a transmissible disease, and that the man has not been within five years past an inmate of any county asylum or home for indigents. The clerk, if he has any suspicions, may decline to issue the license. The applicants for a license may, however, appeal their case to a judge of the circuit court and have him pass upon their application. The result of this law has been very valuable, from an educational standpoint, and we do know of many cases in which persons who proposed to contract marriage have been prevented from doing so. I do not say that this is the only method, but it is a step in the right direction, and further restriction of marriage will doubtless be made. Unfortunately, there is nothing to be done to the delinquent county clerk except to impeach him. If he fails to comply with the law, or fails to perform his duties, he may be removed from office and fined \$500.00. The point I am making is, there are many cases that we know of in which marriage has been prevented, and most of our clerks seem to be conscientiously endeavoring to follow the law. Some of the clerks, before there was such a law, refused to issue marriage licenses where either party was feeble-minded. The second means of restriction is one in operation in a neighboring state. The law provides for the sterilization of such persons. I have been asked to state the extent and operation of this law. Between four hundred and four hundred and fifty operations have been performed in the Indiana reformatory, 203 of which were by voluntary request. There have been a few cases in other institutions.

REPORT OF COMMITTEE ON CLASSIFICATION OF  
FEEBLE-MINDED

At the meeting of the Association at Chippewa Falls in 1909, a committee on classification was appointed, consisting of Drs. Fernald, Goddard, Wylie, Bullard and Murdoch.

At the Lincoln meeting, Dr. Goddard, the only member of the committee in attendance, presented the correspondence which had passed between the Chairman, Dr. Fernald, and the other members of the committee living outside of Boston, an abstract of which is given below.

The ideas of the individual members of the committee, as shown in the correspondence, were discussed at this meeting and the following classification agreed to, its adoption being considered as tentative, with a view of giving the whole matter further consideration during the year intervening, until the next annual meeting.

(1) The term feeble-minded is used generically to include all degrees of mental defect due to arrested or imperfect development as a result of which the person so effected is incapable of competing on equal terms with his normal fellows or managing himself or his affairs with ordinary prudence.

(2) The feeble-minded are divided into three classes, viz.: (a) Idiots: Those so deeply defective that their mental development does not exceed that of a normal child of about two years. (b) Imbeciles: Those whose mental development is higher than that of an idiot but does not exceed that of a normal child of about seven years. (c) Morons: Those whose mental development is above that of an imbecile but does not exceed that of a child of about twelve years.

The descriptive terms heretofore accepted to express pathological and other definite characteristics, such as hydrocephalic, paralytic, mongolian, etc., may be used as prefixes or adjectives.

It was agreed that the Binet mental tests afforded the most reliable method at present in use for determining the mental status of feeble-minded children.

It was agreed that there would be considerable advantage in

sub-dividing the three classes into three groups each, and designating them by the prefixes, high grade, middle grade and low grade, respectively.

The following chart presents the scheme graphically:

FEEBLE-MINDED CHILDREN			Mental Age
MORONS	{ High Grade	9	as determined by Binet tests. 8 to 12
	{ Middle Grade	8	
	{ Low Grade	7	
IMBECILES	{ High Grade	6	3 to 7
	{ Middle Grade	5	
	{ Low Grade	4	
IDIOTS	{ High Grade	3	0 to 2
	{ Middle Grade	2	
	{ Low Grade	1	

The following is the essential part of the correspondence referred to.

CIRCULAR LETTER SENT OUT BY THE CHAIRMAN,

DR. FERNALD, April 23rd, 1910.

I beg to call attention to the fact that we are on a committee on clasification. I have received no communication from anyone except Dr. Bullard, and if you have any suggestions to make on this subject I would be glad to hear from you so that we may make at least a preliminary report this year.

My own suggestion would be that we agree upon a tentative classification and submit it to the Association this year. After thorough discussion we should be given another year in which to prove and round up the scheme.

My preference would be for something very much simpler than has been the vogue for a decade, something like the following, for instance:

1. Idiocy
2. Imbecility
3. Feeble-mindedness.

Under each of these heads we might have various grades of the three grand divisions of mental defect, as 1st grade of imbecility, 2nd grade of idiocy, etc.; or perhaps we might have more than two sub-divisions under each main head.

I would then make arbitrary definitions for each of these.

grades, or perhaps each sub-division might be given a descriptive title, as excitable idiocy, apathetic idiocy, etc.

I consider it essential that the classification should be based entirely upon the degree of intelligence presented, and that the details given should be so descriptive that they are obvious and intelligible to the well-educated general practitioner who studies the scheme.

\* \* \* \* \*

The non-institution man has never been able to gather from textbooks or the literature of the subject the fact that all the above pathological types may present any degree of mental defect, that is, that a microcephalic may be feeble-minded, imbecile or idiotic, or that a spastic case may be a gross idiot, or merely a backward child.

REPLY FROM DR. WYLIE, May 6, 1910.

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My idea is that three, or possibly four, groups for our institution children would be sufficient and the terms idiocy, imbecility and feeble-mindedness are as good as any. Though the use of the term "feeble-minded" as a designation for a group would probably tend to cause some confusion, as it is often used for a name for the whole class; however, we might make use of the name "psycho-athenia.

(Dr. Wylie suggest, also, the terms "psycho-asthenia" and "amentia" for "idiocy" and "mental debility" for sub-normal.)

\* \* \* \* \*

In regard to clinical groups, microcephalous, hydrocephalus, mongolian, cretin, etc., these are well fixed in literature and are necessary to preserve. My idea for the use of them would be to append them to the terms designating mental defect, such as, microcephalic idiocy, mongolian imbecility, etc., as the case may be. I think, also, that the term, "moral imbecility" should be retained to designate the special class to which it has been given. The definition of these terms is one of special difficulty and I have thought that we should have to designate the upper limit in the case of each group. This, of course, is more difficult on account of the forcing we subject them to in our schools. Should we fix the boundary as the upper limit to which they are able to attain in our school? Then again, of course, the child is growing and some think may be able to advance from one grade to another. This might indicate that a schedule for feeble-minded might be necessary to show their attainments at the different ages of life. However, this is probably going farther

than is necessary at this time and the idea of a preliminary report, which you suggest, I think would be desirable and leave the details of the definition of these various terms to some later time.

On the whole, I concur in the suggestions of your recent letter and think possibly three or four degrees of defect, based upon the degree of intelligence presented, is a most desirable form of classification.

REPLY FROM DR. MURDOCH, April 29, 1910.

I agree with you thoroughly in the ideas put forth in your letter. I believe the classification should be made as simple as possible, and in the classification of any given case three things should be made clear—the etiology; the clinical variety, or pathological condition; and the degree of mental defect.

To express the etiology the terms congenital and acquired; to express clinical variety or pathological forms possibly epilepsy could be added with advantage to the five varieties you give; and to express the degree of mental defect, idiocy, imbecility and feeble-mindedness.

\* \* \* \* \*

REPLY FROM DR. GODDARD, April 29th, 1910.

I have felt just exactly as you express it in regard to classification for sometime, but I feared that I was a heretic and that no one would agree with me. I said last year at Chippewa Falls, in my paper, that to say that a child was hydrocephalic or microcephalic told us nothing of any particular value or interest to us in the institution in our care or management of him. As it seemed to me, the only term in the old classification which was of much value was "mongolian". That does limit the child pretty much, both mentally and physically.

Now we have been carrying on here during the past year quite an elaborate study of our children for some scheme of classification. I hope to have this matter in suitable condition to present to the meeting at Lincoln, and if it comes out as it seems to me it will, I think it will be at least a small contribution to the problem, but for our committee work now, I think I may give you an outline sufficient for the present purpose.

First, we have been thinking all the year of some way in which we could obviate the difficulty of having the term feeble-minded used in both the generic and the specific sense. My first thought was to follow the English and call the generic word "amentia" but Prof. Jonstone reminds me that all our in-

stitutions are called institutions for the feeble-minded, which is the generic use of the term, and it would be impossible to change that because that would mean legal changes.

The next best thing is, of course, to give up the specific use of the term and get something in its place. Various things have been suggested. The two most feasible ones seem to me to be, first, proximate (with the idea that these children are nearly normal), for the group that are nearest. They might be called proximates. The other is to call them by the Greek word "moron". \* \* It is defined as one who is lacking in intelligence, one who is deficient in judgment or sense. All this differentiates him too from the lower grade of whom we cannot say they are simply deficient in judgment, there is something more than that.

Personally I prefer the latter word. It has the advantage also of not being already in use in English in any sense. Consequently we would have no quarrel or no necessity for saying that we use it in a special way. We would simply define its meaning once for all and by using it, make it stand for what we want.

If this is acceptable, then we would have, counting from above down, backward children, if you like; then morons, imbeciles, and idiots. And as you say, I think these three would cover the ground very nicely and in most all cases they are all that we need. However, we could provide for a closer classification whenever it was necessary, and I would suggest that we divide each of these into three. This, as it happens, would give us a decimal classification.

This itself might be of some use incidently, in that it would be fairly intelligent if we were to say to a stranger, this child classifies five on the scale of ten. Of course such an explanation would be incomplete because they would not know where the beginning was or hardly the end of the series. Still it would mean much more than it now means to say to such a person, we call this child an idio-imbecile.

I should suggest, then, that counting from the bottom up, we should have, low grade, middle grade, high grade idiot; low, middle and high imbecile; low, middle and high moron. With the normal child, whether he be backward or fully up as the "10" or perfect specimen.

Now for the defining of these different grades, I believe we have in the Binet test, which I have translated and which we have been using this year, a very good measure. The tests seemed to me very interesting and good as I read them over, but we have now just finished a complete testing of all of our children by this method, and we have been constantly amazed at the way

the matter has turned out and the agreement between the mental age of these children as shown by these tests and what we know of them from experience. It is this correlation that I hope to work out and present in my paper. Here I can only suggest to you the bare skeleton.

I will send you the reprint of this so that you can have it at hand for comparison in connection with this report, but briefly the plan would work somewhat like this: The low grade idiot would be the helpless child, or one under one year of age in mental development; the middle grade would be the year old, or we might say, a child who is not quite helpless, who can feed himself but he will eat anything and everything; the high grade idiot would be, for example, one who eats somewhat discriminately, will not eat everything; the low grade embecile would include those that test as **three** and those who test four years of age according to the Binet plan; the middle grade would be the five year olds; the high grade those that test **six and seven** years; then the low grade morons would be the eight and nine year olds; while the middle grade of ten years; and the high grade eleven and twelve.

In our complete testings we have found no children that test above the mentality of a twelve year old child.

I think this brings out some very significant things in the development of the mind. In the first place, the fact that we have none over twelve suggests the further fact that at twelve or thirteen we began the period of reasoning with children and inasmuch as that is precisely the thing that is lacking in our moron children, we have here a striking agreement, they do grow up to that point. Or we may say, apparently any child that develops beyond the twelve year period has sufficient reasoning power to get along in the world, and does not pass as feeble-minded. In the same way, it is rather significant that the division between the imbecile and moron comes between six and seven, which suggests very strongly our old dictum, that the brain becomes fully developed at seven; thus marking another, so to speak, natural or physiological division between the two.

I don't know just what we will find of a similar nature between the idiot and imbecile, unless it be speech, but perhaps it is not necessary to attempt to carry the scheme as far as that. You will see from the test, however, that the line there is about the one we have usually made. The imbeciles are those that can learn something, the idiots can learn almost nothing.

I believe that we would have here, so to say, a three-fold classification. That is, as I have already said, we could speak of



a child as either three, or five, or nine on the scale of ten. We could speak of him as high, middle or low; idiot, imbecile or moron; or if we did not wish to use the qualifying adjectives, simply call him idiot, imbecile, or moron. And thirdly, we could designate him as a child of the mentality of seven or of ten year old normal, just as we saw fit.

As to the old terms of the other classifications, we would simply have to understand that a child might be microcephalic imbecile or a microcephalic idiot; a hydrocephalic moron; a mongolian imbecile; a cretinous moron perhaps, or whatnot.

As you will see, I have only a rough outline to propose at present, but I think your suggestion an excellent one, that we make a preliminary report at the present meeting, and ask to be continued for another year when something final may be done.

And in the meantime doubtless many suggestions will come in, and we can refine the thing down to a satisfactory working basis.

I think even if we were ready to make a complete final report, one of the things most needed is to have the subject agitated until all institutions are ready to adopt some uniform system. The difficulty now is that we are hardly any two of us agreed. The old classifications, as you have said, are so illogical, based as they almost all are on more than one basis of classification, and consequently leading to confusion throughout.

\* \* \* \* \*

This correspondence will place the whole matter clearly before the members.

A. C. ROGERS, Secretary.



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## EDITORIAL

### THE NEW CLASSIFICATION (TENTATIVE) OF THE FEEBLE-MINDED

The action of the association on the report of the committee, illustrates the natural and logical blending of medical and psychological influences in the treatment of the subject of mental defect. In considering this classification, it is well to bear in mind the three phases which the subject presents, viz.: 1st, the nomenclature itself; 2nd, the adoption of a psychological basis for grouping the cases, and 3rd, the special psychological tests used for determining the classification.

If it had been easy to advise a classification of general appli-

cation it would have been done long ago, for there have been many students interested who were familiar with medical and pathological studies and who had plenty of material on which to work.

As to the nomenclature, the committee tried to retain the old terms so far as possible and still avoid confusion from the lack of uniformity and precision in former usage. In some respects, the English use of the term, mental deficiency, as applied generically, is preferable to our term, feeble-mindedness. The adoption of the English form in this country is not practicable, however, from the fact of the incorporation by statute of the term, feeble-minded, into the names of practically all of the institutions for this class in America, as stated in the correspondence. If it were not so the term could be retained for the highest grades and the other two terms, imbecile and idiotic, could still apply to the lower grades, as recommended by the committee, and thus avoid the necessity of any new term. However, applying the word feeble-minded generically, as the circumstances seemed to require, the committee were compelled to secure a new term for the high grade. The writer does not presume to pass upon the philological question involved in selecting, for instance, one Greek word in preference to another of similar meaning, nor to judge of the advantage of selecting from Greek, rather than Latin, but it is essential, however, that the word selected be simple in form. We are permitted to refer to Professor John C. Hutchinson, at the head of the Greek department of the Minnesota State University, in sanction of the idea of using the term, moron, recommended by the committee, and in treating it entirely as though it were an Anglo-Saxon word, that is, ignoring any attempt to follow Greek inflections. Either one of two or three other Greek words, as good as the one selected, might have been used, perhaps. However, this is immaterial so long as we can agree upon one definite term that is simple and presents no intrinsic objection to its use.

As to the matter of emphasizing a psychological basis for classification rather than a pathological one, we can see no serious

objection to it, if thereby we can secure a means of determining quickly even an approximate estimate of the child's mental ability by some system that is of general application and that presents to all, the physician, the teacher, the parent and the student, alike, the same mental picture to be referred to a common mental standard. Who is there that does not have a mental picture always in view, of the activities and capacities of normal children at different ages? What more natural or rational than to compare the mind, backward in development, with a normal one? The only requirements for this are, 1st, a concise summary of the intellectual expressions of the mind of a child in groups corresponding to its different ages; and 2nd, some means of determining the group of expression that characterize the mentally deficient child under examination. It seems to us that the whole question of classifying upon a psychological basis, hinges upon whether these last two requirements are met,—and this again hinges upon whether the Binet, or some other similar or equivalent system meets, or can meet, the requirements.

Dr. Goddard's examination of 400 children at Vineland seems to place them so accurately in the scale of intelligence already in use under Dr. Barr's classification and the other forms, as interpreted by Mr. Johnstone and his corps of teachers, that the results seem to them very satisfactory. We have experienced the same satisfaction in the results so far obtained by Dr. Kuhlmann in the examination of 150 children at Faribault during last September.

We have reason to congratulate the committee upon its work in laying so excellent a foundation and there remains only the careful testing out of a large number of cases and the securing of well-worked-out normal data from American school children, with the possible modifications and corrections that such experience may suggest, to give us a reliable and practicable standard for a psychological classification.

We must not be understood as belittling the pathological basis of the mental defect itself, for the recognition of the fact of a pathological basis is necessary for a more complete under-

standing of the case—both for scientific accuracy and for assisting in prognosis. The classification proposed provides a happy blending of the pathological and psychological descriptions.

We would, however, throw out a word of caution about the application of the mental tests. To do any scientific work properly, the operator must have had some training in scientific methods, and to secure reliable data concerning feeble-minded children, one must know from experience something of the nature of the class he is working with and must possess that peculiar, and not altogether common faculty of securing the absolute confidence of the child, and hence, the ability to obtain a full response in each case. The question of diagnosis of mental defect is often involved in court practice and it can readily be seen how easily unprincipled charlatans might exploit alleged laboratory tests in the interest of criminal offenses against feeble-minded women of the higher grades. It will be wrong to inculcate the idea that anybody without special training can diagnose and classify mental defect.

A. C. R.







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1911

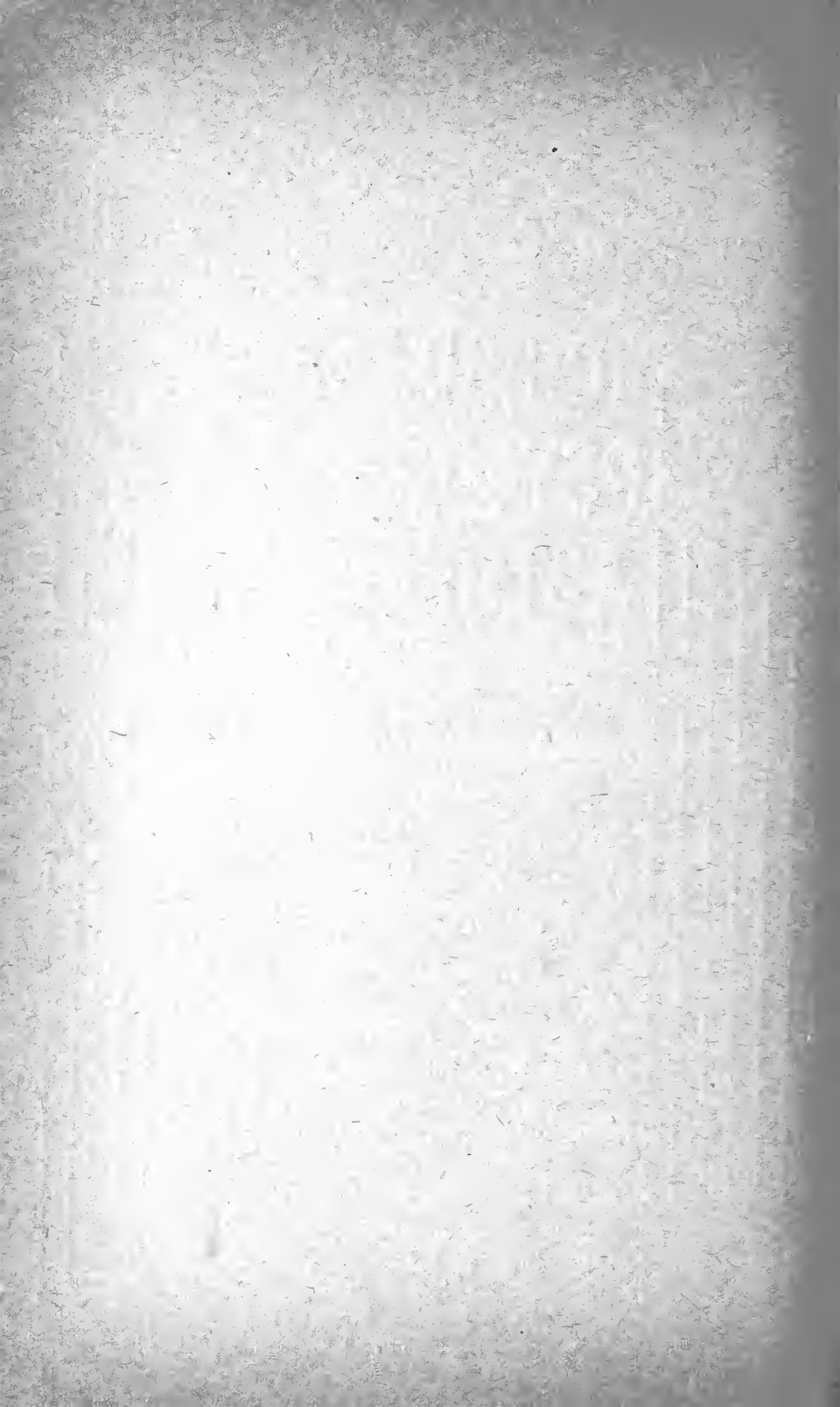
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## PRESIDENT'S ADDRESS

BY MISS MATTIE GUNDRY, FALLS CHURCH, VA.

Upon receiving notice from Dr. Rogers, some weeks ago, that I had been honored by this association in being chosen its president, my thoughts at once traveled back over the years that had gone since I first entered upon work among the feeble-minded and I thought of the many and varied experiences, the encouraging and discouraging moments, the pleasures and sorrows and I wondered through them all what measure of merit or reward could be mine greater than to receive from this association this honor, and I thank you.

I trust I may be pardoned this evening for making my remarks brief and upon a subject neither medical, scientific nor pedagogic. I want to embrace this opportunity to say a few things in regard to, and in behalf of the many humble workers in every institution for the feeble-minded, those upon whom so much that is little and so little that is great devolves, and without whom no institution could flourish and grow in its usefulness. I speak of the army of helpers. No institution, large or small, public or private, can get along in comfort and harmony without a well regulated and well directed staff of helpers and to these faithful ones too much credit can not be given for the success-

ful conduct and good name of our American institutions for the feeble-minded. It is little understood by the public the sacrifices of time, of pleasure and of strength that are daily being placed upon the altar of duty in our class rooms, our wards, our work shops and in the fields; nor can even an appreciative public pay for it in coin fitting the tasks performed by these painstaking, patient, faithful teachers, attendants and nurses. To my mind, one of the most important if not the most important position in life, is that occupied by women in caring for the little children in the world. And in our institutions no people dealing directly with the children are more important and indispensable than the teacher and the attendant, for to their work must be brought all the patience, kindness and self-sacrifice that one could well be called upon to bestow in any calling. There is so much to call out the deeper feelings of love and hope, of despair and disgust, and, be it said to their credit, whichever feeling may be called upon, the duty must be performed just the same for the child's well-being and comfort.

There seems to be a softening and refining influence exerted over those who love their work, by association with the weaker and more helpless creatures, their daily charges and companions. There are many hearts full of love and anxiety poured out upon the little helpless and motherless ones and the greatest compensation received for this willing gift, is the devotion and love that is returned so bountifully. The children learn to love their teachers and their house mothers, (for such an attendant is or should be) and to them they look for the words of cheer and direction so constantly sought.

What more pathetic picture could be portrayed than the new arrival in tears sobbing out its plaintive woes to the one who puts him to bed, and right here is called into play the tenderness or harshness of a nature. The greater number of these children have been the petted and coddled ones at home and when placed among strangers who see only their outward and possibly repulsive features, how sad and broken the little heart that can not express a wish of its own and how big a heart of sympathy is needed to receive him. I am glad and proud to be able to testi-

fy that the supply of tenderness and sympathy is not often found wanting. It takes courage at times to go on with the many trying duties that arise. Courage that displays itself in silent effort, and endeavor that dares to endure all and suffer all for duty, are more truly heroic than the achievements of physical valor which are rewarded by titles and wreaths of laurel. The Bible tells us that he who conquers himself is mightier than he who takes a city. Courage in great things is fine but it is no less fine to have the courage that will compel us to do our duty faithfully in little things.

There are no people for whom I have greater admiration than for the conscientious, industrious, big-hearted attendant; and there is no position in the classified civil service whose requirements should be greater. The numerous positions necessary to the complete and proper conduct of an institution are of course all important, but some more so than others. All the faithful who occupy them can not receive the monetary return their services seem to call for, and in lieu of which should be accorded praise and encouragement which goes a great way towards making life happy and some positions bearable. A bright and happy start to a day will often make it easier to come to the finish with credit. The word of encouragement put in where a rebuke or a frown was intended, will do much to make a disagreeable duty a pleasure. Be therefor not sparing with the smiles for they are cheap when everything else seems to be going up in price. All can not attain to places to which they may aspire, but a helping hand and an encouraging word can do no harm when advice is asked.

An employe without ambition is not the best in any position. Earnest endeavor is better than success even though the world knows nothing of it. In the past twenty years it has fallen to my lot to perform the duties of almost every position in an institution from cook to superintendent, and in so doing have come closer in contact with the children and employees than most people are privileged to do and for this reason I feel called upon to say the few words I have of commendation and cheer.

## BINET AND SIMON'S SYSTEM FOR MEASURING THE INTELLIGENCE OF CHILDREN

BY F. KUHLMANN, PH. D., FARIBAULT, MINN.

The present article is a condensation, with minor adaptations, from Binet et Simon: "Le development de l'intelligence chez les enfants," *L'Annee Psychologique*, 1908, pp. 1-94. Accounts of the tests herein described have already been published in English by Goddard of the New Jersey Training School, in "The Training School," 1910; by Huey of the Lincoln State School and Colony, Lincoln, Illinois, in "A syllabus for the clinical examination of children," School Print, 1910; and by Whipple in his *Manual of mental and physical tests*, Baltimore, 1910. In these accounts, however, but few of Binet and Simon's comments on the tests have been included, undoubtedly for the sake of brevity. I have thought it advisable to publish this fuller account in which the main comments of the authors are given. The system is intended for use by persons not necessarily trained in psychology or specially informed as regards the mental development of normal children. But its very simplicity is apt to lead to misunderstandings unless those who use it can do so with some knowledge of such explanations and aims of the tests as the authors give.

The system consists essentially of a graded series of simple tasks that the child is asked to perform. The tasks are arranged in the order of increasing difficulty for the normally developing child. They are, further, grouped according to the ages at which the normal child acquires the ability to perform them. Thus, in general, the "mental age" of a child is determined by the most difficult group of tests that he is able to pass. The following are the tests with the authors' comments. General considerations for conducting the tests and the interpretation of the results are given below.

### III. CHILDREN OF THREE YEARS

1. Say to the child: (a) Show me your nose. (b) Show me your eyes. (c) Show me your mouth.

The child at first understands only our gestures, and is sensible only to the intonations of our voice. Next he understands the spoken word without the ability to express his own. This test determines whether he understands the meaning of familiar words.

2. REPETITION OF SENTENCES. Read the following sentences to the child, slowly and with expression, and ask him to "say" them:

Series A. (a) It rains. I am hungry (6 syllables).

(b) His name is Jack. Oh, what a naughty boy (10 syllables).

If the child remains silent try the following series:

Series B. (a) Papa (2).

(b) Slipper. Letter (4).

(c) It rains. I am hungry (6).

(d) I have a dog. He's a fine one (8).

(e) His name is Jack. Oh, what a naughty boy (10).

No error of any sort is allowed in the repetition by the child. A normal child of three years will repeat a sentence of six syllables, but not one of ten. The natural defect in pronunciation at this age often makes it difficult to know whether the repetition is correct or not.

After the ability to understand words comes the ability to repeat them when heard, not, as one might suppose, the ability to speak one's own thought, or to name an object.

3. REPETITION OF TWO NUMERALS. Tell the child to say the following numbers after you. Pronounce them at

the rate of one per half second: 6; 8; 3. 3-7; 6-4; 8-5.

The test is passed if two numerals are repeated correctly once out of three trials.

Numerals are more difficult to repeat than words because of their lack of meaning. A child that repeats six syllables will not repeat more than two numerals.

4. DESCRIBING A PICTURE. Show the child a picture and say: "Tell me all that you see in that picture." Use at least three pictures. They should be colored, and each should contain some people and a "subject."\*

One of three different classes of responses may be obtained. (a) Simple enumeration. Of this, there are three degrees. In its simplest form the child merely names one after the other a few of the persons and objects that he recognizes. In the second, more advanced degree, he names more things. In the third he uses connectives and prepositions. The normal child will name less things than the older, defective child of the same mental age, because of the former's lesser experience and smaller vocabulary. (b) Description. In this, the use of phrases occur, in addition to the connectives, designating the characteristics of the persons and objects. (c) Interpretation. In this, the subject of the scene or the character of the person is perceived, indicated perhaps by some emotional word, remark or attitude.

This test suffices at once to determine whether the child is of a mental age of three, seven or twelve. At the age of three he simply enumerates, at seven, he describes, and at twelve he interprets. It reverses the process involved in Test 'I' of this group, where the child passed from the heard word to designating the thing; here he passes from seeing the thing to naming it, a much more difficult process.

5. GIVING THE FAMILY NAME. Ask the child to give his name. If he gives only

\*[For this purpose pictures found in "Jingleman Jack," by James O'Dea, New York and Chicago, 1901, will be found satisfactory. The writer uses the following three: Scene on a lawn, in a meat market, and in a shoe repair shop.]

his first name, John, e. g., ask further: "And what is your last name? John—What?" etc.

Every child of three knows his first name. He does not always know his family name.

#### IV. CHILDREN OF FOUR YEARS

1. SEX OF CHILD. Ask: "Are you a little boy or a little girl?"—in the case of a boy, and "Are you a little girl or a little boy?"—in the case of a girl. If the child replies "yes", or "no", ask the questions separately.

At three, there may be no reply or an error. At four, a correct answer is always given.

2. NAMING OF FAMILIAR OBJECTS. Show successively a key, a closed knife, a penny, and ask: "What do you call this?"

This is more difficult than naming the things seen in a picture, as required in Test III.4. There the child could choose what he wished and was able to name. Here he must name the particular things shown him—apparently a small, but in reality a big difference.

3. REPETITION OF THREE NUMERALS. Proceed as in III.

3. Use the following: 6-4-1; 7-9-3; 8-2-5.

4. COMPARISON OF TWO LINES. Prepare a cardboard with two parallel horizontal lines, one five and the other six centimeters long, and three centimeters apart. Show it to the child and say: "See these lines. Which is the longer?" Give three trials, turning the card about each time so as to change

the relative positions of the two lines, or, better, use three cards.

A correct response without hesitation must be given two times out of the three trials.

A child of three, fails; one of four, passes. Failure may be due to inability to comprehend the words rather than to an inability to perceive the inequality of the lines.

#### V. CHILDREN OF FIVE YEARS

1. COMPARISON OF TWO WEIGHTS. Prepare two pairs of weights, identical in size and appearance, the first pair weighing three and twelve grams, and the second pair six and fifteen grams. Place a pair before the child and say: "See these two weights. Which is the heavier?" If, after all explanation, the child fails to comprehend the task the weights may be placed in the child's hands, one in each, and the question asked again.

The child at five barely passes this test. The comprehension of the task is much more difficult than the perception of the difference in the weights. Various wrong responses result.

2. COPYING A SQUARE. Prepare a card with a square on it, four centimeters on a side. Place this before the child and have him draw it with **pen and ink**. Drawings similar to specimens 1, 2 and 3, Plate I., are regarded as satisfactory. Specimens 4, 5 and 6 are failures.

3. GAME OF PATIENCE WITH TWO PIECES. Prepare two 2x3 inch cards, cutting one



into two triangles along one of its diagonals. Place the uncut card before the child, and the two pieces of the other nearer him with the two hypotenuses away from each other, and so that they can be combined into a rectangle without turning over one piece. Say: "Put these two pieces together so they will make one like that," pointing to the uncut card.

At four, about two-thirds fail. At five, scarcely one in twelve fails.

Some precautions are to be noted. (a) Some children are too indolent to try; they should be encouraged. (b) The child may accidentally turn over one piece. In this case begin over again. (c) At the moment of making the successful combination the child may look up inquiringly for an opinion as to its correctness. No suggestion should be given.

4. COUNTING FOUR PENNIES. Place four pennies in a row before the child. Say: "See - these pennies. Count them. Tell me how many there are." Have the child point at each as he counts.

The child of three fails. At four, half pass. At five, all pass. No error is allowed.

The process of counting involves (a) the ability to recite the numbers in correct succession; (b) the ability to apply each number to a different object. It may be objected that success here depends upon training. But only a low grade intelligence would prevent learning to do this.

## VI. CHILDREN OF SIX YEARS

1. SHOWING RIGHT HAND AND LEFT EAR. Say: "Show me your right hand." Then, "Show me your left ear." If, for the first, the response is such as to leave it uncertain as to which hand is meant, tell

the child to raise the right hand up high.

At four, all err by showing the right ear. At five, half fail. At six, none fail.

There are three classes of responses. (a) Responses showing that the child does not know right from left at all; he shows the right in both cases because of the natural tendency to show it. (b) Responses showing that he knows, but is not quite certain. He shows the right ear but corrects himself. (c) Responses showing that he knows with certainty, being made correctly without hesitation. 'b' and 'c' are accepted as satisfactory.

## 2. REPETITION OF SENTENCES OF SIXTEEN WORDS.

Proceed as in III. 2. Read the following to the child: "Let's all go for a walk to-day. Please give me that big hat to wear."

At five, half the children fail. At six, none fail.

3. AESTHETIC COMPARISON. Cut out the pictures given in Plate II. and mount them in pairs on three card-boards of convenient size, keeping the arrangement for each pair as given in the plate. Show one at a time to the child and say: "Which is the prettier of these two?"

At five, half fail. At six, none fail. There is a strong tendency to choose the one on the right or left each time.

## 4. DEFINITION OF KNOWN OBJECTS. Ask the following:

- (a) What is a fork?
- (b) What is a table?
- (c) What is a chair?
- (d) What is a horse?
- (e) What is a pencil?

The responses obtained may be grouped into three classes. (a) silence, or simple repetition, as "A fork is a fork," or designating the object by gesture. (b) Definitions in terms of use alone, as "A table is to eat," "A horse is to pull wagons." (c) Defini-

tions better than in terms of use, as, "A horse is an animal that pulls wagons." The child is attributed the class to which the majority of his definitions belong.

At four, half define in terms of use alone. At five, a little more than half define this way, and at six, nearly all do. At nine, the majority define better than in terms of use. The first class of responses is, of course, the most childish of all.

5. EXECUTION OF THREE SIMULTANEOUS COMMANDS. The authors use the following, saying to the child: "Do you see this key? Go put it on that chair there. Then close the door. Near the door you see a box on the chair. Bring the box to me. First the key on the chair; then close the door; then bring me the box. Do you understand? Very well, go ahead." These may be varied if circumstances require it.

The child should execute them promptly without further direction.

At four, nearly all fail; at five, half fail; at six, all or nearly all succeed.

6. GIVING AGE. Ask: "How old are you?"

Many remain silent, others give an age much too small, never too high. At six, the majority give their age correctly.

7. DISTINCTION BETWEEN MORNING AND AFTERNOON. Ask: "Is it morning or afternoon?"\*

Before six, the child does not respond correctly readily.

## VII. CHILDREN OF SEVEN YEARS

1. Cut out the four pictures from Plate III. and mount

\*[I have found it very advisable to state the question this way if it is morning, and to ask, "Is it afternoon or morning?", if it is afternoon, because of the strong tendency to always repeat the last word of the question.]

each on a cardboard of suitable size. Show one at a time to the child and ask: "What is gone in that picture?"

The test is passed if three of the four are answered correctly. Various irrelevant replies may be given. At five, the replies are inadequate. At six, two-thirds are still wrong. At seven, the majority are correct.

2. TELLING NUMBER OF FINGERS. Ask: "How many fingers on your right hand?" "How many on your left hand?" "How many in all on the two hands?"

The correct answers should be given without counting or hesitation. At six, half pass. At seven, all pass.

3. COPYING A WRITTEN PHRASE. Use "The little Paul" for a copy, and have the child write it with pen and ink.

The test is passed if one ignorant of the copy can read the child's writing. Some make only zigzag lines, others certain letters only so as to be legible. The test might be regarded as a test of training. But inability to pass it indicates at the same time a retarded intelligence.

4. COPYING A DIAMOND. On a cardboard draw a diamond of about the size of the square used in V. 2. Have the child draw it with pen and ink.

Drawings equal to samples 1, 2, and 3. Plate IV. are satisfactory. Drawings no better than samples 4, 5 and 6 are unsatisfactory. At five, a child can draw a square. But at six, half fail in drawing a diamond. At seven, a fifth still fail.

5. REPETITION OF FIVE NUMERALS. Proceed as directed in III. 3. Use the following: 6-5-2-8-1; 4-9-3-7-5; 2-8-6-1-9.

One repetition without error in the three trials is sufficient for passing the test. At seven, only three-fourth pass.

6 DESCRIBING A PICTURE. Proceed as in III. 4.

From three to five, the child merely enumerates. At seven, description is the rule with but few exceptions.

## 7. COUNTING THIRTEEN PENNIES. Proceed as in V. 4.

The child must count and touch each penny with his finger as he counts it, without an error of any sort. At six, two-thirds still fail. At seven, none fail.

## 8. NAMING FOUR COMMON PIECES OF MONEY. Show the child a nickel, a penny, a quarter, and a dime in the order given, and ask: "How much is this?" for each.

At six, hardly any French children know the four common French coins. At seven, the great majority do.

## VIII. CHILDREN OF EIGHT YEARS

1. READING FOR TWO 'MEMORIES'. Give the child the passage given in Plate V., and say: "Let me see how well you can read this." Note the character of his reading, and take the time it takes him to read the passage. Immediately after he has read it have him recall it, saying: "Now tell me what you read." To determine the number of 'memories' divide the passage as follows:

Three—houses—on fire—St. Paul—Sept. 5—A big fire—in St. Paul last night—destroyed—three houses in the centre of the city—Seventeen families—are without shelter—The loss exceeds thirty thousand dollars—In rescuing—a child—in his cradle—a barber's boy—has had his hands—seriously—burned.

The following is the rate at which normal children read the passage.

At 8 years .....	45 seconds
At 9 years .....	40 seconds
At 10 years .....	30 seconds
At 11 years .....	25 seconds

The character of the child's reading may be as follows: (a) Spelling; (b) Reading by syllables; (c) Hesitant reading with frequent pauses between words and phrases; (d) Fluent reading—without pauses; (e) Expressive reading.

The test is rarely passed at seven, but nearly always at eight.

The test shows the dividing line between imbeciles and morons. If the test is passed it shows the child's intelligence. If a child from eight to ten years fails we must suspend judgment until we are certain that his inability to read is not due to lack of schooling. If an adult of thirty cannot read we may, without great chance of error, conclude that he lacks intelligence.

2. COUNTING THE VALUE OF STAMPS. Prepare a card-board with a horizontal row of three one cent stamps, and under them a row of three two cent stamps. Show this to the child and ask: "How much will it cost to buy all these?"\*

The correct answer must be given in less than fifteen seconds. At seven, the great majority pass. At eight, all pass.

3. NAMING FOUR COLORS. Mount two by six centimeter strips of the four primary colors, red, yellow, green and blue, on four small cardboards. Show each to the child and ask: "What color is this?"

No error is allowed.

4. COUNTING BACKWARDS FROM TWENTY TO ONE. Say: "Let me see how well you can count backwards from twenty to one." If the child does not at once understand, say "Count like this: 20, 19, 18, and so on."

\*[Stamps are substituted by Goddard for the French coins, three simple and three double sous, used by the authors.]

The count must be made within twenty seconds, with not more than one error. Training affects this test.

5. WRITING FROM DICTATION. Say: "Let me see how well you can write what I read to you?" Then dictate: "The pretty little girls."

The test is passed if the words are not joined, and if one not knowing the dictation can read the writing. At eight, all pass.

6. COMPARING TWO OBJECTS FROM MEMORY. Ask: "What is the difference between:

- (a) a butterfly and a fly?
- (b) wood and glass?
- (c) paper and cardboard?"

If the child does not understand what is wanted say: "You know the butterflies, you have seen them? And the fly, you know it also? Are they alike? Why are they not alike?"

To pass the test the three comparisons must be made within three minutes, and two must be exact. At six, a third pass; at seven, nearly all pass, and at eight, all do. This is a valuable test in that training in no way affects it.

## IX. CHILDREN OF NINE YEARS

1. GIVING THE DATE. Ask successively: "What day of the week is it to-day? What month? What day of the month? What year?"

An error of three days is allowed for the day of the month. But it is a curious fact that the children are ignorant oftenest of the year. They probably have no idea of so great a lapse of time.

2. NAMING THE DAYS OF THE WEEK. Say: "Name the days of the week."

They must be named in correct order without hesitation, and in less than ten seconds.

3. MAKING CHANGE—NINE CENTS OUT OF TWENTY-FIVE. This test is best given in the form of a game, adding the necessary instructions. Play store. Give the child twenty-five pennies, five nickels, and two dimes. Let him be the storekeeper and the examiner the purchaser buying something for nine cents.\*

The child must actually return the sixteen cents change as well as say it. At seven, hardly any pass; at eight, a good third pass, and at nine, all do.

4. DEFINITION BETTER THAN ACCORDING TO USE. The procedure is given in VI. 4, above.

At seven and eight, half pass. At nine, all do.

5. SIX 'MEMORIES' FROM READING. The procedure is given in VIII. 1 above.

At eight, all can read the passage, but few retain six memories. At nine, nearly all pass.

6. ARRANGEMENT OF WEIGHTS. Prepare five boxes, identical in size and appearance, and weighing 3, 6, 9, 12, and 15 grams, or 6, 9, 12, 15, and 18 grams respectively. Place them mixed up before the child and say: "These boxes do not all weigh the same. Some are heavy and some are light. Place the heaviest here, and next to it the one next heaviest, and here the next heaviest, and here the last one,

\*[This is Goddard's adaptation from the French, substituting American coins.]

the lightest," pointing out with the finger the place where each is to be put. Give three trials.

The three trials together must not take over three minutes, and the arrangement must be without error twice out of the three trials.

Many children do not understand the explanation, and do not try. Others place them at haphazard without weighing them. Others understand the explanation and can discriminate the weights, but fail to arrange them correctly because they cannot get the idea of a decreasing order. Still others do not fail in any of these things, but make an error because of lack of attention and care. It is an excellent test because it is not affected by training, and reveals natural intelligence, although of a special, sensorial sort.

## X. CHILDREN OF TEN YEARS

1. NAMING THE MONTHS OF THE YEAR. Say: "Name the months of the year."

They must be recited within fifteen seconds, and with not more than one error.

2. NAMING NINE PIECES OF MONEY. Show the following pieces of money in the following order: Quarter, nickel, dollar, penny, dime, half dollar, two dollar bill, five dollar gold piece, ten dollar gold piece, and ask: "How much is this?" The question needs to be stated usually only for the first coin shown.

Correct answers must be given for all pieces without the child touching any of them, and the whole test must not last over fifty seconds. If it is suspected that an error made is due to a wandering of the attention the test may be repeated.

3. USING THREE WORDS IN A SENTENCE. Say: "Here are three words: money, river, St. Paul," repeating them once. Then say: "Make a sentence in

which you use these three words?"\*

One minute is allowed for making the sentence. The kinds of sentences obtained may be divided into three classes. (a) Three separate ideas expressed in virtually three separate sentences. (b) Two separate ideas expressed in virtually two separate sentences with use of a conjunction. (c) One sentence expressing a single idea.

Sentences of the first class are not accepted as satisfactory. At seven, the child cannot yet write well enough for the test. At eight, hardly any pass. At nine, a third pass, and at ten, half do.

4. QUESTIONS OF COMPREHENSION. Ask the following questions one at a time:

First series. "What should one do:

(a) when he has missed the train?

(b) when he has been struck by a playmate who did not mean to do it?

(c) when he has broken something that does not belong to him?"

Two of the three questions must be answered satisfactorily. At six, a satisfactory answer is rarely given. At seven and eight, half pass; at nine, three-fourth, and at ten, all pass.

These three questions are easily understood and do not present a verbal difficulty. The following are more subtle and do present some verbal difficulty.

Second series. "What should one do:

(d) when he is detained so that he will be late for school?

(e) before taking part in an important affair?

\*[The authors require the child to write the sentence he forms. Goddard does not specify whether he requires it to be written or oral. In the writer's experience the test is too difficult for the time allowed if the sentence has to be written.]

(f) Why does one forgive a wrong act committed in anger more readily than a wrong act committed without anger?

(g) when one asks for your opinion of someone whom you know only a little?

(h) Why ought one to judge a person more by his acts than by his words?"

Allow at least twenty seconds for each question of both series. Three of the five in the second series must be answered satisfactorily. At seven and eight, the second series is never passed. At ten, hardly half pass. This, then, is a test on the transition from ten to eleven. It is, further, one that corresponds more with the popular idea of intelligence. Not to know the day of the week, date and year, or be able to recite the months are excusable faults, possibly due to distraction or lack of training. But this test should remove these doubts.

## XI. CHILDREN OF

### ELEVEN YEARS

1. CRITICISM OF SENTENCES. Say: "I am going to read you some sentences in which there is some nonsense. Listen very carefully and tell me what the nonsense is." Then read the following very slowly one at a time and ask: "What is the nonsense?"

(a) An unfortunate bicycle rider has had his head broken and is dead from the fall. They have taken him to the hospital, and they do not believe that he will recover.

(b) I have three brothers, Paul, Ernest and myself.

(c) Yesterday they found on the fortifications the body of an unfortunate young girl cut into eighteen pieces. They be-

lieve that she killed herself.

(d) Yesterday there was an accident on the railroad. But it was not very bad. There were only forty-eight killed.

(e) Someone said: "If in a moment of despair I should commit suicide, I should not choose Friday. For Friday is an unlucky day, and that would bring me bad luck."\*

Three of the five must receive good answers. At nine, hardly any pass, at ten, hardly a fourth pass, at eleven, half pass.

These sentences test the critical sense. But the child may feel the absurdity of the statement without being able to give his reason. To determine this is often difficult.

2. USING THREE WORDS IN A SENTENCE. The procedure is given in X. 3.

At eleven all pass.

3. SIXTY WORDS IN THREE MINUTES. Say: "I am going to see how many words you can say in three minutes. Say them out loud as fast as you can and I will count them."†

Sixty words are required to pass the test. All pass at eleven. The nature of the words given is also instructive. Some give only detached words; some only names of objects. Others give series of related words, while still others give abstract qualities. The latter are good signs of intelligence.

4. GIVING DEFINITIONS OF ABSTRACT WORDS. Ask: (a)

\*[Whipple substitutes other sentences on the grounds that the present series is too 'blood-curdling.' I have found no objection to the series, except that the last allows of interpretations that do away with the nonsense, and that the children very often give these interpretation.]

[The authors, in addition, tell the child that some get as many as 200. But I have found that the child's consciousness of gross failure to get this many often creates a depressive effect and decreased effort on his part.]

"What is Charity? (b) Justice?  
(c) Goodness?"

Good definitions must be given for two of the three.

At eight to nine, the child rarely passes. At ten, a third do, and at eleven, the majority pass.

5. WORDS TO PUT IN ORDER. Show the child the groups of words, one at a time, given in Plate VI. and say: "Put these words in order and find the sentence that they make."\*

Sixty seconds are allowed for a group and the words of two must be correctly combined in order to pass the test.

## XII. CHILDREN OF TWELVE YEARS

1. REPETITION OF SEVEN NUMERALS. Proceed as in VII. 5. Use the following groups:

(a) 6-4-1-3-7-9-5

(b) 8-2-5-7-3-6-9

(c) 3-7-2-5-8-4-6

One correct repetition out of the three trials is sufficient for passing the test.

2. RHYMING WORDS. Explain with an illustration to the child what rhyming means. Then say: "I am going to give you a word and see how many other words you can find that rhyme with it. The word is 'day.' Find all the words you can that rhyme with 'day.'" Proceed in like manner with the words 'spring' and 'mill.'†

\*[The exact arrangements of the words as they are shown to the child is undoubtedly of considerable importance. But it would be difficult to get an arrangement in the translation which one could regard with certainty as identical with the French in difficulty for French children.]

Allow one minute for each word.

To pass the test three words that rhyme with the given word must be found in two out of the three trials.

3. REPETITION OF ONE OR MORE SENTENCES WITH TWENTY-SIX SYLLABLES IN ALL. Use the following series of sentences and proceed as in III. 2.

(a) Children, it is necessary to work for a living. You must go to your school every morning. (24)

(b) The other day I saw a pretty young dog in the street. Little Maurice has some spots in his new apron. (26)

(c) Ernest is punished very often for his bad conduct. I bought a beautiful doll at the store for my sister. (28)

(d) There was a frightful tempest with lightning that night. My comrade has taken cold. He has a fever and coughs very much. (30)

No error of any sort is allowed. With a series of sentences increasing in length a point is soon reached where minor errors appear, such as the change in position of a word, or the use of a synonym, or the omission of an unimportant one. With still longer sentences essential parts will be modified or entirely forgotten.

4. PROBLEMS OF DIVERSE FACTS. (a) Say: "I am going to read you a sentence, but will stop just before coming to the end. Listen carefully and see if you can finish it as it should be." Then read the following:

†[The authors give only one trial, and with a much more difficult word, viz., 'obedience.' This seems to make the test too difficult. The above is Goddard's adaptation.]

"A person out walking in the woods suddenly stopped, much frightened, and ran to the nearest police to report that he had seen hanging from the limb of a tree.....(after a pause) a what?"

(b) Read the following slowly:

"My neighbor has been having strange visitors. He has received one after the other a doctor, a lawyer, and a minister. What has happened at my neighbor's?"

Both must be answered correctly.

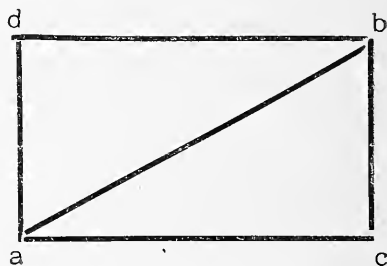
### XIII. CHILDREN OF THIRTEEN YEARS

1. DRAWING A CUT IN A TWICE FOLDED PIECE OF PAPER. Take about a six inch square of paper and say: "Watch me fold this piece of paper and how I cut it. I am going to ask you in a moment to draw the way it would look if I unfolded it again." Then proceed as follows: In plain view of the child fold the square twice in the middle and in directions at right angles to each other. Then cut an equilateral triangle of about a centimeter from the middle of the closed side—the side showing only one fold. Then give the child another square of paper of the same size and repeat: "Draw the way this piece of paper would look if I unfolded it again." He may keep the folded paper and piece cut out in view but must not touch

either, nor attempt to fold another.

It is a difficult test. If the child succeeds readily, ask if he has tried it before.

2. DRAWING THE FIGURE OF TWO JUXTAPOSED TRIANGLES. Use the two triangles cut for V. 3. Place them on a piece of paper before the child, with triangle abc nearest him, thus:



Say: "Suppose I turned over this piece (abc) so that this side (bc) will be next to this side (ab) of this piece (abd), and so that this corner (c) will be at this one (b). What will the shape of the two together be then? I will take away one (abc). Now draw on this piece of paper. Begin by drawing a line around the one you have left." After he has drawn one triangle both should be removed from his sight.

The test is difficult. It is passed if the child draws a right angle at 'b' for the second triangle, and makes the side 'bc' next to 'ac' shorter than 'ac.'

3. DISTINGUISHING BETWEEN ABSTRACT TERMS. Ask the following: "What is the difference between:

(a) pleasure and honor?



- |                           |                         |
|---------------------------|-------------------------|
| (b) evolution and revolu- | (d) poverty and misery? |
| tion?                     | (e) pride and preten-   |
| (c) event and advent?     | tion?"                  |

This concludes the list of tests as the authors have outlined them. In the necessary adaptations for American children and conditions I have in most cases followed Goddard, and in a few instances, Whipple, as noted in the foot-notes. Whether these adaptations make the revised tests the exact equivalents of the original for French children would be difficult to say without some experimentation on this point itself. But it is important that we maintain a uniformity of procedure if results obtained by different examiners are to be at all combined or compared.

For the sake of further maintaining this uniformity of procedure I have also included more specific directions in many cases for the individual tests than the authors give. These may seem trivial and unnecessary in some cases on merely reading the tests, but will, I believe, justify themselves to those who are putting the tests to any extensive use. Unfortunately it will be found, especially with abnormal children, that the details in the procedure must often be varied to meet the variety of individual peculiarities that we find in the children. No variation should be made without a clear reason, but this given, good judgment should be sufficient to guide the procedure correctly. This is one of the points where the system of testing is not so mechanical as appears on the surface. The following is a brief summary of the authors' general discussion of the tests.

GENERAL CONSIDERATIONS FOR CONDUCTING THE TESTS. Work in a quiet, isolated room. Have no other person present except, when possible, a stenographer to take down the child's responses, *verbatim*. Always treat the child kindly. If he seems timid, reassure him at once, not only in tone of voice, but also by giving some test that is most of the nature of a game. Always encourage and never criticize or make corrections. The object in hand is to determine the child's intellectual level, not to teach him. Never help the child with additional explanations. The tests are of such a nature that he **ought** to understand. Only

make sure first that you have his attention in every case and then proceed according to the directions given. Begin with tests that are not too easy nor too difficult for the child, but with some that fit his age. If one begins with too difficult tests the child may be discouraged. If the first are too easy, it may excite his scorn, and he may make no effort. Do not let your information obtained from other sources about the child influence your judgment. Regard him as an X, an unknown quantity which is to be determined by the present method alone.

RECORDING RESULTS.— Besides the *verbatim* record of all the child's responses, make note of all incidental observations that may be of value in interpreting the results. But do not keep the child waiting between tests. This may cause the child to lose interest in the procedure and the examiner to lose hold on the child's attention. The variety of performances called for is well adapted to sustain the child's efforts continuously for a prolonged period. It will be helpful to prepare blanks on which the tests are arranged in vertical columns, or in horizontal lines by number only. They may then be marked with plus or minus signs accordingly as the child passes or fails in them. These signs will then indicate at a glance where the child stands in his total performance.

INTERPRETATION OF RESULTS AND DETERMINATION OF THE MENTAL AGE.— It happens but rarely that a child will pass all the tests up to a certain point and then abruptly begin to fail in all the following tests belonging to higher age groups. The typical case is one in which he will pass all up to a certain point and then fail in one or two tests of the next age group, in several more in the next, and perhaps in all after that. To determine the mental age from such results the authors give the following rules:

(1) A child has the intellectual development of the age for which he passes all the tests, allowing one failure in one test for that age. If a child passes all the tests except one for the age of nine, and also all the tests except one for the age of ten, he is still attributed the intellectual development of ten years.

(2) Further, once the intellectual development of the child is thus fixed, he is advanced one year for every five tests that he passes beyond that development, and two years for every ten tests that he passes beyond that point. This much is simple and quite mechanical. But to judge, in the first place, whether the child passes or fails in the case of each individual test is not always easy. The variety of responses is very great and they do not always come clearly under the general classes described above. Special factors frequently appear causing results to deviate from the average and influencing them in other ways than through the intelligence. The results must be interpreted and the procedure here again guided by one's judgment. This must be done with the aid of the *verbatim* record and the notes on the incidental observations, helped by such general knowledge of psychology and special information about the nature of the child mind as the examiner may have at his command.

CONSIDERATIONS IN REGARD TO A DEFINITION OF INTELLIGENCE AND THEIR RELATION TO ITS MEASUREMENT.- Since these tests are intended to measure intelligence it is necessary that we have a clear idea of what intelligence implies. Only thus can we determine how well the tests fulfill their purpose. The meaning of intelligence may be made clearer by distinguishing several things that until now have been confused. First, and most obviously, intelligence does not mean degree of instruction or training. Very intelligent children may, from various causes, be deprived of this. Secondly, intelligence is independent of school ability, the ability to learn, to assimilate in school, with the methods used in the schools. Success in school work requires attention, will, character, docility, regularity of habits, and especially continuous effort. Without these the very intelligent child would learn but few things in school, and with them the child of average intelligence may do well. Further, we must distinguish between different kinds of intelligence itself. Distinction is to be made between what we may call (1) **maturity of intelligence**, and (2) **correctness of intelligence**. The former refers to the increase of intelligence with age, precocity

being the maturation of intelligence in advance of its real age. Both the immature, childish intelligence, and precocity are seen best when manifested in character. Everyone has seen intelligent men, for example, who yet remain childish. The maturing of intelligence consists probably of (a) an increase in the faculty of comprehending and judging. A child comprehends less and judges with less penetration than the adult. It consists also (b) of the increase of acquisitions of all sorts. The child has less experience and knows less.

There may be maturity of intelligence without correctness of intelligence, which goes to show that what we have distinguished here are really two different and independent things. A boy of twelve, for example, may use the three words in a sentence of Test X.3, but his sentence may have no sense. An adult may give his interpretations of the pictures, but they may be remarkably at fault. Here we have maturity without correctness of intelligence.

Now, of these several things that have been distinguished, what do the tests measure? We may expect that no simple answer can be given. The tests themselves fall into several classes with reference to what and how they measure. In the first place, some of the tests can be passed easily by children much younger than the age for the group to which they belong. The tests on naming four colors, the days of the week, and the months of the year, belong to this class. This shows that certain things may be known in advance of the ordinary age of acquisition through special efforts on the part of parents or teacher to teach the child these particular things. This must be taken into account. A second class of tests may be passed through precocity at an earlier age than the age for the group to which the tests belong. This depends uniquely upon intelligence, and not upon training or any special acquisition. The tests on the arrangement of weights, the definitions better than according to use, and the definitions of abstract terms belong here. A third class is generally passed at the proper age, at the age corresponding to that for the group to which the tests belong. These tests reflect a knowledge that is always acquired at a certain age, and are

passed through the combined influence of intelligence and acquired knowledge. Counting backwards from twenty to one, retaining a certain number of 'memories' after one reading, words to put in order to make a sentence are tests of this class. Thus the authors' answer to the above question is that the tests do not measure intelligence considered as separate from a number of concrete factors. They measure a complex, and the result of the measurement depends on (1) intelligence, pure and simple; (2) acquisition due to special training and teaching; (3) school acquisitions that appear at a certain age only; (4) acquisitions relative to language and vocabulary, due possibly to both school and home training.

THE MEASURING SCALE OF INTELLIGENCE IN USE.— The authors' chief conclusions are that the tests really offer an instrument that enables us to measure the intellectual development of children of the ages ranging from three to twelve years; that the method is practical, convenient and rapid. They, further, discuss the use of the tests in ranking defective children under the old and familiar classes, idiots, imbeciles, and feeble-minded, terms which they retain. The idiot is a being who cannot communicate with others by language. He neither speaks nor understands. His intellectual development corresponds to that of the normal child between birth and two years. To determine the dividing line between idiocy and imbecility, tests III.1, and 4 should be given. The imbecile is one who cannot communicate with others in written language. He can neither read and understand what he reads, nor write from dictation or spontaneously in an intelligent manner. To determine the dividing line between imbecility and feeble-mindedness tests VIII. 1, and 5 should be given. But since illiteracy may be due to lack of schooling several other tests are given in addition. The dividing line between feeble-mindedness and the normal is more difficult to determine. It is probably not fixed. An individual is normal when he can take care of himself, when he can get sufficiently remunerative work to meet his personal needs, and when his intelligence does not rank him below the average of

the society in which his parents live. According to this a boy may be feeble-minded in one kind of social environment while he would be normal in another. To decide upon the particular tests that show best the dividing line between feeble-mindedness and the normal, still further considerations must be taken into account. The tests outlined above were all gotten up exclusively on the basis of observations on young children. But an imbecile of forty, for example, may be able to do things that a normal child, of the same intellectual level as the imbecile, cannot do. The imbecile may be able to recite the days of the week, the months of the year, to name the four principal colors, and the pieces of money which the normal child does not learn before eight to ten years. This is because the imbecile has had longer experience. There are left five or six tests adapted to show the dividing line between feeble-mindedness and the normal for the population in Paris and surroundings. These are IX. 6, X.3 and 4, XI.4, and XII. 2. Thus we have the following corresponding mental ages for the three old classes of mental defectives:

Idiots.....mental age of 0 to 2 years

Imbeciles.....mental age of 2 to 7 years

Feeble-minded, mental age of 7 to 12 years

But this classification according to mental age is valid only for the time being. A child that is an imbecile to-day may be feeble-minded only as he grows older, or he may remain an imbecile. The prognosis is reserved.

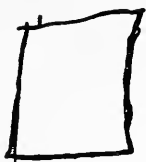
There remains a final class of abnormals, the backward children of the public schools. They do not differ from the cases in the special institutions except in the degree of the defect. The same tests may be used to determine this degree. This class may be defined as those who are backward in their school work by three years without having been absent sufficiently to cause this backwardness. These tests are adapted to determine the cause as well as this degree of defect.

Finally, the tests should be found useful in determining the mental status of persons accused of crime, and of candidates for enlistment in the navy and army.

PLATE I



1



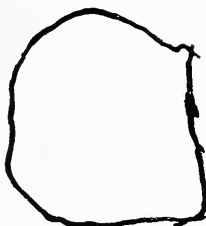
2



3



4



5



6

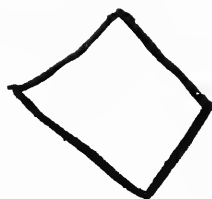
PLATE IV



1



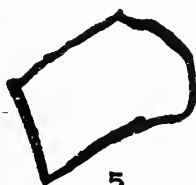
2



3



4



5



6

PLATE II





PLATE III



## PLATE V

### Three Houses on Fire.

St. Paul, September 5th. A big fire in St. Paul last night destroyed three houses in the centre of the city. Seventeen families are without shelter. The loss exceeds thirty thousand dollars. In rescuing a child in his cradle a barber's boy has had his hands seriously burned.

## PLATE VI

(a)

the for  
at a good hour  
we park started

(b)

to asked exercise  
my I have teacher  
correct my

(c)

a defends  
good dog his  
master bravely

APPLICATION OF MENDEL'S LAW TO HUMAN  
HEREDITY

BY C. B. DAVENPORT, Ph. D., COLD SPRINGS HARBOR, N. Y.

For our purpose Mendel's law may be regarded as consisting of three principles. First, the principle of the unit characters or inheritable unit, each of which is, in accordance with the second principle, transmitted through the germ by a representative called a determiner. The third principle is that when the germ cells of both parents carry a determiner of a character the fertilized egg and the embryo derived from it have the determiner of the character double, or duplex. When the germ cell of one parent only carries the determiner, this is simplex in the embryo. When neither parent carries the determiner the embryo is devoid of it. It follows that, if neither parent has a character, none of their children can have it. If both parents have the character in question simplex, one-fourth of their children will be without it; one-fourth will have the character duplex and half will have it simplex again.

During the past ten years the study of the characters of plants and animals have revealed the nearly universal validity of this law and during the past two or three years it has been shown to apply to many human qualities. The law appears clearest in this form: When both parents lack a unit character all of their offspring lack it. Illustrations of this law are seen in the case of brown iris pigment. In case both parents lack it (and have blue eyes), all of their children have blue eyes. In case both parents lack curved hair, all of the children have straight hair; if both parents have flaxen hair, the children are all like them; if the parents are blonds, lacking abundant skin pigment, so are their children. If both parents are defective in mental development, their children are all defectives.

In some cases, rather paradoxically, the normal condition is the defective one. Thus the condition of five fingers is defective

as compared with six fingers and two happily defective parents, even of polydactylic strains, do not reproduce the extra digits. So, too, apparently, with stationary night blindness and some other diseases which seem to be due to something added to the normal condition. In all such cases normal parents even of the affected strains, just because they lack the added abnormal character, reproduce only the normal condition.

When one parent is defective and the other has the additional character the children will have the character; but, since they get it from one side of the house only, the character is apt to appear in a diluted condition. Thus it may confidently be expected that the children of an imbecile and a normal parent will not all be as mentally strong as the stronger parent because their mental development depends on a simplex determiner. Such children may even appear as high grade imbeciles, and, since they have the germ (weak though it be) of full mental development, there would seem to be more hope for improvement by training with these people than with the offspring of two imbecile parents. This is offered as an hypothesis merely; you who deal with such children will know the facts. But if the hypothesis be true it would indicate the great importance of a knowledge of parentage, and more remote ancestry, in prognosticating the effect of training and in suggesting the course of training.

When both parents, even though not imbecile, are simplex in their determiner of mentality, one-fourth of their offspring will tend to be imbeciles of low grade, one-fourth normal and one-half only slightly less than normal or of a high grade of imbecility. This suggestion is again submitted to your consideration as to its accord with the facts.

As an appendix to the foregoing considerations I wish to urge a project upon your attention. The committee of eugenics of the American Breeders' Association has established headquarters at Cold Spring Harbor in the vicinity of New York City. It desires first to assist in a propaganda for the study of pedigrees of the feeble-minded. It wishes to urge upon every training school the desirability of supporting at least one field worker who shall visit the homes whence come defective pupils and deter-

mine the mental condition of other individuals of the same germ plasms as are united in the pupil in question. The Vineland school has set a shining example of this work and has achieved striking results. These studies really ought to be carried on in every state, not merely to confirm the laws of heredity of imbecility but to determine the main blood lines of imbecility coursing through this country. The headquarters of the eugenics committee would be glad to become the repository of duplicates of all such data.

Of course the problems, why the determiner for full mental development became lost originally, whether it may be destroyed or its action be interfered with by drugs or other means, and, in general, what is the intimate nature of the defect in the germ plasm are all important and their study can not be begun too soon. But we have reason to think that these problems will not be solved for decades while the history of the main defective blood lines can be made out, by concerted effort, in a few years. The committee on eugenics urges each school for defectives to act as far as lies in its power in getting scientifically trustworthy family histories.

The second matter which the committee of eugenics would urge is this: Are not the data in hand sufficient to warrant that a clear cut presentation of the facts as to the results of reproduction of imbeciles be placed in the hands of each state legislature to the end that at least female imbeciles be in general prevented from reproduction by restraint during the reproduction period (say from 15 to 45) or by sterilization. If there is a committee of the association on legislation I trust that it will draw up (if it has not already done so) a full statement including the ascertained facts of heredity, the facts of increase of imbecility and the present inadequate treatment of imbecility. Such a statement could then be presented to each state legislature and action urged. Is it not time to get to work so as to have such a statement ready for presentation next autumn when legislatures reconvene? If a committee of the association on legislation does not exist I would urge that such be appointed during the present session of the association.

## A FEW REMARKS ON THE DIFFERENT FORMS OF PARALYSIS WITH THEIR COMPLICATIONS

BY W. J. G. DAWSON, M. D., ELDRIDGE, CAL.

When Dr. Rogers wrote me requesting that I present something personally before this association I had hardly time to consider the matter but replied that he might put me on the program for a short paper or talk with the above title. Since then my varied duties have not given me sufficient time to present more than a few points including a tabular statement of cases occurring in our own institution, the Sonoma State Home, Eldridge, Cal.

I am compelled to quote from authors in reference to the etiology, pathology, symptomatology and diagnosis of the different forms of paralysis, which quotations will necessarily be brief. My object is more to promote discussion than to advance any new ideas connected with this interesting subject.

ETIOLOGY—Certain distinctions exist between cases of cerebral paralysis which takes place in adult life and those occurring in children. In the case of adults, "the most frequent causes of non-traumatic cerebral hemorrhage is the occurrence of miliary aneurisms in the vessels of the brain. These aneurisms are 0.1 to 1 mm in size and sometimes cannot be seen without the aid of a lens. Charcot and Bouchard, who were the first to recognize them as the cause of the hemorrhage, regard them as due to a chronic arteritis." (Putzel in Reference Hand Book, Vol. II.)

Age is an important factor, the majority of cases of apoplexy occurring after 45 years, and more often in male subjects than in females.

"Hemiplegia as ordinarily seen is usually the final result of an apoplectic stroke from cerebral hemorrhage, embolism, or thrombosis. It may also come on slowly caused by a brain tumor, brain abscess, chronic softening, meningitis, etc. In these instances the clinical picture may be complicated by a sudden paralysis from hemorrhage or thrombosis in the diseased area, or the like. In

infancy, the lesion is a varied one—from hemorrhage, inflammation, arrested development, etc., and is often of traumatic origin. Choreic, athetotic and accessory movements occur very frequently in these cases. Great impairment of intellect, even complete idiocy is frequently found and epileptic convulsions become established in many cases.” (P. Zenner in Vol. IV Reference Hand Book Medical Sciences.)

**PATHOLOGY.**—In reference to the pathology I quote from Dr. Hirt's *Diseases of the Nervous System*, as follows: “In view of the comparatively frequent occurrence of cerebral palsies in children, it is rather to be wondered at that so extremely little is known about their pathogenesis and their initial stage; more especially in reference to the anatomical changes that occur. This may perhaps be accounted for by the difficulty and sometimes even impossibility of making an early diagnosis. At a time when we are able to recognize the disease, we usually have to deal with a process which has already passed through all or almost all of its different stages. It is the same with the lesions which we find. They, in no wise, explain the exact nature of the disease but only give us an idea of the many various ways in which the brain with its meninges may be altered in early childhood as a consequence of a disease which was most probably intra-uterine.”

This description tallies so minutely with our own experience in post mortem work that I merely add that there is a great difference between the pathology found in the feeble-minded child and that found in adult life. In my early professional career, I had a good opportunity of making autopsies on epileptics and paralytics on Blackwell's Island, New York, and I usually found the remains of the old clot in the brain which caused the paralysis in the individual. But, in the different classes of feeble-minded children that come under our observation in our institution, there is nothing definite found in regard to the gross pathology of these cases.

**SYMPTOMS**—In adults the paralyzed limbs almost invariably do not undergo any noteworthy atrophy although the paralysis may have lasted for years, while in the hemiplegia of early



childhood marked atrophy of all the tissues of the paralyzed limbs always takes place. Contractures occur in both children and adults, more frequently in the former. "Associated Movements" are observed quite often in hemiplegia, particularly when it occurs in childhood. Post-hemiplegic chorea, while observed in adults, occurs far more often in children.

"When the hemiplegic or hemiparetic child becomes epileptic the patient's mind suffers more than from the idiopathic form of epilepsy. If the patient has not yet learned to speak he will either not learn at all or only very imperfectly and his talk will be quite unintelligible; but, if the fits do not continue, then mental development will progress." (Hirt.)

Professor Hirt does not indicate the grade of mental development which may be reasonably looked for. Our experience teaches that it will never be up to the normal standard.

DIAGNOSIS.—"Spinal and cerebral infantile paralysis cannot be confounded with each other if we keep in mind that, in the latter, one whole side of the body is affected; that the muscles are rigid, the reflexes increased, that convulsions occur not only at the onset but also in the further course of the disease; that the mind becomes impaired, etc. In the spinal form, either one limb alone—arm or leg—is affected, or both arms or both legs and the reflexes in the paralyzed extremities are lost—signs enough to enable us to differentiate between the two affections. A hemiplegia due to cerebral hemorrhage can, in most cases, be excluded owing to its rarity in childhood. Such, moreover, would usually not be associated with muscular atrophy. In the diagnosis of the bilateral affection we must take into consideration the possibility of a multiple sclerosis, Friedreich's Disease (hereditary ataxia), brain tumor, (especially tubercles), meningitis and cerebral syphilis. In many cases it is impossible to come to a satisfactory conclusion." (Hirt's Diseases of Nervous System.)

### FORMS OF PARALYSIS

In a population of 865 at the Sonoma State Home at Eldridge, Cal., are 110 crippled in some way or to some extent by paralysis—a ratio of 12½ per cent. to the whole population. Of

these one hundred and ten, 59 are males and 51 females. They are divided as follows:

HEMIPLEGIA.—	Male	Female	Total	
In epileptics .....	14	6	20	
In non-epileptics .....	10	9	19	
	—	—	—	
	24	15	39	39

The hemiplegics are thus 36 per cent. of the paralyzed. The hemiplegia is on the right side in 7 males and 8 females. The hemiplegia is on the left side in 17 males and 7 females, giving a ratio of 41 per cent. right sided and 59 per cent. left sided hemiplegia. Of the hemiplegics, 7 males and 1 female have club feet.

DIPLEGIA.—	Male	Female	Total	
In epileptics .....	4	8	12	
In non-epileptics .....	5	19	24	
	—	—	—	
	9	27	36	36

The diplegics are 32 per cent. of the paralyzed. Of these diplegics, 5 males and 2 females have club feet. There is one case of crossed paralysis among them.

PARAPLEGIA.—	Male	Female	Total	
In epileptics .....	11	4	15	
In non-epileptics .....	15	5	20	
	—	—	—	
	26	9	35	35

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110

This makes the paraplegics 32 per cent. of the paralyzed.

Among the paraplegics, clubfoot exists in 3 males and 1 female, one each having a double clubfoot, male and female. A spastic state or condition is present in 12 males and 35 females. There is besides one case each, male and female, of spinal spastic paralysis. The condition of athetosis is present in 3 males and 6 females.

In the entire population the percentage of hemiplegics is  $4\frac{1}{2}$ ; of diplegics 4 per cent.; and of paraplegics 4 per cent.

Of the hemiplegics, 51 per cent. are epileptic; of diplegics, 34 per cent.; and of paraplegics, 51 per cent. Reversing the classification, 8 per cent. of the epileptics are hemiplegic; 5 per cent., diplegic, and 6 per cent., paraplegic. The epileptics number 27 per cent. of our population at the present time.

It would be interesting to us to know whether our figures present an average common to homes or training-schools for the feeble-minded; but I regret that there were no tables available to us at the time of drawing up this paper which could afford us a means of comparison.

Lest some of the foregoing figures should seem excessive, it would be well to bear in mind that this table includes the slightest cases. Some of our hemiplegics can now run and jump quite well, while some of the paraplegics show only a shuffling gait. It has been our endeavor to study these cases so as to classify them properly and to make some useful deductions from the features which they present.

## TREATMENT OF EPILEPSY WITH ESPECIAL REFERENCE TO THE USE OF CALCIUM SALTS

BY A. L. BEIER, M. D., CHIPPEWA FALLS, WIS.

The treatment of epilepsy has been gone over so often by different writers that one feels a slight hesitation in attempting to add anything to the great mass of literature that has been devoted to it. Every now and then, some one finds a new drug, or one employed in other conditions that acts beneficially on the course of epileptic phenomena and yet, a specific, I dare say, will always be lacking. This is rather a pessimistic view, I admit, but the result of treatment in the great majority of instances would not lead one to optimism. Nearly every observer obtains favorable results no matter what drugs he uses, providing, of course, he limits the diet of his patients and makes changes in the patient's surroundings, habits, etc. For a time we hear this particular remedy, or method of procedure, lauded; however, it is only a short time before this has lost its popularity and the bromides are again resorted to. Our enthusiasm is pitched to the highest key every now and then by the success that this observer has attained, and we more or less enthusiastically again resume the attempt to conquer that which seems, and up to the present time, is unconquerable. If we doubt the efficacy of any new line of treatment, we are quite prone to disregard our skepticism in the matter and we are always willing to give the patient the possible benefit that may accrue from such treatment.

In the following report of a number of cases that have been treated, I do not wish to represent that I am adding anything new or original to the massive literature on this subject. I only desire to add a few results of my experience in the handling of these cases. I cannot lay claim to good results, as far as the absolute abolition of convulsions is concerned, but I can lay claim to the appearance of a better mental and physical status in the great majority of epileptics under my care. I believe that Dr. Wilmarth will bear me out in this statement.

As the title of this paper indicates, especial reference to the employment of calcium salts will be made, consisting mainly in reports of cases in the treatment of which I have used calcium salts. There is one case, however, that I wish to report where there has been a cessation of convulsions for seven months, and as the lad appears to be in good physical and mental condition I am hopeful that the spasms will **not recur**.

Calcium salts have been used in the treatment of epilepsy for some time. I find an article on calcium lactate in the treatment of epilepsy by Dr. Littlejohn in the *Lancet* of May 15, 1909. I first became acquainted with its use by reading an article by Dr. A. P. Olmacher, of Detroit. This article appeared in the *Journal of the American Medical Association*, August 14, 1909. There have been other reports since. Dr. Olmacher selected his cases. He found that the coagulation time of the blood of his patient was diminished. The following case illustrates the outcome of the treatment.

J. E., an epileptic, twenty-two years of age, began having convulsions when he was thirteen years old. It is reported that he had from six to ten spasms per day before he came under the care of this institution. He was placed on treatment and there was a cessation of convulsions for nearly two years. However, the spasms returned and since then he has been having them with greater severity and frequency. The spasms are of the grand mal type, nocturnal variety chiefly. I tried him on a variety of medicines, as potassium bromide, sodium bromide, chloral tincture, belladonna, tincture digitalis, both separate and in combination, but found that the boy was being gradually stupified by the administration of the bromides, chloral, and undoubtedly by the frequent convulsions that he was having. He was at one time one of our brighter boys, being useful mainly in our industrial department and quite an apt pupil in our sloyd and band. However, as mentioned before, he was degenerating rapidly both mentally and physically. He finally became unable to perform his duties in the band and orchestra, so was dismissed. Moreover, he was barely able to make beds, sweep the floors, or even to dust with any degree of precision. He was having several convulsions

nightly and sometimes one or more during the day and semi-stuporous constantly. He was placed on the syrup calcis lactophosphate drachm i, t. i. d. A short time afterward I noticed a decided improvement in his physical condition, and the improvement in his mental condition occurred concurrently with his physical progress. I thought that he would develop, and in reality expected, a series of convulsions when withdrawing the chloral and the bromides, but was happily disappointed. He soon became brighter, took an active interest in his surroundings, became again useful in the dormitories and after a month's time he was again allowed to receive instruction in the band and orchestra. Lately he has been employed in the garden. Since then he was placed on calcium gr. xv t. i. d. and I notice a steady improvement in his condition. His spasms have diminished both in frequency and severity.

J. J., an epileptic boy twenty-eight years of age, began having convulsions when he was thirteen years old. He had at that time about seven or more convulsions of the grand mal type per month. When he first came here his intelligence was considered to approach the normal most closely, Dr. Wilmarth tells me, excepting before and after a convulsion, when he became irritable, and quite stuporous. He was also subject to furious outbreaks of temper, and inclined to be pugnacious. His disposition gradually changed with his mental condition. His spasms continued and occurred with greater frequency. There was a gradual but perceptible deterioration in his mentality. He was receiving potassium bromide gr. xv. liquor potassii arsenitis m. i. v. tincture cannabis india m. v. four times daily. There was no appreciable change in the frequency of his convulsions. Two months later I increased this to five times daily. There was no change, excepting in his mental condition, for he grew more and more apathetic. One month later I changed this to potassium bromide gr. xv, tincture digitalis m. v. nux vomica m. iv. fld. ext. stramonium bromide m. i, four times daily. His spasms increased in frequency. Two months later he was placed on sodium bromide gr. x, strontium bromide gr. x, tincture nux vomica m. v. liquor potassii arsenitis m. v, t. i. d. but he had the same number of spasms

as in the preceding month, and the degree of prostration that followed each attack rendered the boy unfit for even the slightest kind of work for several days. He was kept on this treatment, however, for five months. The second month he had five seizures; the third, one; the fourth, four; and the fifth one. The sixth month his treatment was again changed to potassium bromide gr. x, sodium bromide gr. x, tincture digitalis, m. v. liquor potassii arsenitis m. v. That month he did not have a seizure. The seventh month he had one spasm; the eighth, six, and the ninth, none. Then again four and six. At about this time he had deteriorated so mentally and physically that it became necessary to transfer him from the department in which he worked to the ward, where he spent most of his time in inactivity and moreover a semi-stuporous condition. He was then placed on syrup calcium lactophosphate, and that month he went without a convulsion. However, the next month he had four seizures; and the month following, six. I noticed that the seizures he had latterly were not so severe as before, likewise that there was not so great a prostration as followed his spasms previous to this line of treatment. He improved both in his mental and physical condition. Owing to the increased number of spasms that he had during the last month, he was placed on calcium lactate gr. xv, sodium bromide, gr. x, t. i. d. He then went two months without a convulsion. He was again assigned to his old occupation and is nearly as bright as when he first came under my observation. His physical condition has improved most wonderfully.

H. I., a middle grade boy, age twenty-two years, is subject to grand mal seizures. The number of spasms he has per month varies considerably, a series of months showing 22, 30, 10, 15, convulsions respectively. He was receiving potassium bromide gr. xv, liquor potassii arsenitis m. v, t. i. d. This mixture did not seem to affect the frequency or severity of his seizures. One morning I found him in status epilepticus. I immediately administered morphine gr.  $\frac{1}{2}$ , atropine gr. 1-100 hypodermically, and the spasms soon ceased. I then placed him on potassium bromide gr. xx, chloral

gr. x, liquor potassii arsenitis m. v, four times daily. Three days later he developed a series of spasms and he was given morphine gr.  $\frac{1}{2}$ , atropine gr. 1-100 and the potassium bromide and the chloral were continued. The convulsions ceased after the administration of the morphine and atropine, but the next day he again developed status. At the beginning of status he was given an enema, ice was applied to his head and I ordered morphine gr.  $\frac{1}{4}$  and atropine gr. 1-100, with inhalation of chloroform till the spasms ceased. The next day I placed him on potassium bromide gr. xx and liquor potassii arsenitis every four hours. He was continued on this treatment for some time and the dose of the bromide was gradually diminished. He did not have a seizure for three months; on the morning of the return of the seizures I had vaccinated him. That same night he was reported as having two severe epileptic spasms. I then placed him upon potassium bromide gr. xx, liquor potassii arsenitis m. v, tr, nux vomica six times daily, but he showed no improvement under this administration. Since then he has been having about seventeen convulsions per month. The boy finally became listless, and yet extremely irritable, had no apparent interest in his surroundings, and it was only with a great deal of persuasion and effort that I could make him answer a question. He was degenerating rapidly, both mentally and physically, until he became almost stuporous. As I was beginning to experiment with the calcium salts about this time I placed this boy on calcium glycono-phosphate gr. vi, sodium bromide gr. x, t. i. d. He continued apathetic for but a short time and now is improving rapidly both mentally and physically; moreover, he is having but few convulsions. I have had him now under closest observation for about a month and no spasm has been recorded. He speaks more than usual, answers questions slowly but intelligently, appears much brighter than he did when he first came under our care, and is able to perform light duties on the ward.

Eddie W., an epileptic lad, hemiplegic, thirteen years of age, came under observation about a year ago. This lad developed



epilepsy when he was about two years old. He is subject to grand mal seizures, and before he came under our care was having a convulsion every day; sometimes he would have as many as twenty per day. Mentally he ranks with our idio-imbecile type of boy. A short time after he came here he was placed on treatment with no perceptible result. He was at first given sodium bromide gr. v, potassium iodide gr. iii. t. i. d. But he had about as many spasms as was usual with him. The next month I placed him on sodium bromide, gr. x, potassium iodide, gr. v, liquor potassii arsenitis, m. iii, nux vomica, m. iii, t. i. d., but there was no change. He was continued on this treatment for several months. In number his spasms were 54, 43, 36, 53 respectively during the following four months. He was deteriorating slowly both in his mental and physical condition. I then placed him on calcium chlorid gr. v, sodium bromide, gr. x, and that month he had only fifteen convulsions. The attendant reports that these were lighter than usual. The following month he had none. He is now having about four or five convulsions per month, but he is brighter mentally and his physical condition has improved.

Fred. P., an epileptic, twenty-eight years of age, has been having convulsions since he was sixteen years old. He has been having from 2 to 5 spasms daily. When he first came under observation he was placed on potassium bromide gr. x, sodium bromide gr. x, liquor potassii arsenitis, m. iv, tr. nux vomica, m. v, tincture digitalis m. v, fla. ext. cascara sagrada m. v, t. i. d. but he continued having about the same number of spasms as was usual with him. I thereupon added tr. opii. m. v, iii and still there was no change. Mentally he was retrograding slowly, and was extremely indolent. He was then placed on calcium lactate gr. x v, t. i. d., and went nearly a month without a seizure. He is now getting along nicely, has become useful at manual labor, and appears considerably brighter mentally. I do not know how permanent this improvement will be as he has been in our care but a short time.

V. D. came under observation recently. He is a boy about twenty-four years of age, and one of our higher grade boys, but

was progressing rapidly toward certain dementia. Before he came here he was having about three or more grand mal seizures daily. He was placed on calcium lactate gr. xv, t. i. d. and for two months he had no seizure. The next month he had three convulsions in quick succession, rather light, and the month following, only one. When he first came here his health seemed to be seriously impaired; he was inclined to be apathetic, had frequent seizures before being placed on treatment, but now he has become more active, works industriously, takes an active interest in the happenings about him, plays base-ball well, and is in better physical and mental condition.

Rudolph S., an epileptic boy, thirteen years of age, hemiplegic, was having on an average twenty-four convulsions per month, grand mal type, before he was placed on treatment. He was given sodium bromide gr. x, calcium glycono-phosphate gr. iv, t. i. d. and that month he had no convulsions. The next month he had five spasms, the one following, none, and so far this month he has not had any. He is certainly much brighter than before.

Earl P. illustrates the result of a different line of treatment. I do not know if the cessation of his convulsions is due to the treatment or to some other unknown factor. However, I will give his history as briefly as possible. This boy is one of our higher grade epileptics, and is about sixteen years of age. He came to us early in 1908. A short time after his arrival he developed severe epileptic seizures, grand mal type. This boy's descriptive and commitment papers stated that he was never subject to epileptic convulsions. The boy himself says that he began having seizures about two years before he came here. While here he was having about twenty-one convulsions per month, and was slowly retrograding mentally. He was placed on potassium bromide gr. x, sodium bromide gr. v, liquor potassii arsenitis, m. iii, tincture digitalis, m. v, t. i. d. The spasms did not diminish either in frequency or severity. Physically he did not seem to deteriorate very much, and his health remained comparatively good. The dose of the sodium bromide was increased to ten grains at each dose and I was grati-

fied to observe that the spasms decreased in number. For a few months he had a few convulsions, but the interval between each was more and more extended. I did not change his treatment and up to date he has not had a convulsion for seven months. Mentally he is in as good condition as when he came under observation. I would say that he has improved considerably in his behavior. He was at first stubborn, pugnacious, and extremely irritable; now he is tractable, well-behaved and willing to do as he is bid. Physically he has also improved.

We have a few cases of petit mal in our care, but as yet I have not found a drug that acts favorably on these cases. I have tried them on bromides and I have found that their depressing effects are in reality worse than the attacks themselves. I have not seen in my short experience the marked mental impairment following these seizures as has been noted by the majority of writers. It is claimed that attacks of petit mal produce a more lasting effect upon the higher cerebral functions than the grand mal seizures. I have a case in mind whose mentality has remained comparatively good through a number of years during which he has been subject to this kind of epileptic attack, and when I compare him with epileptics who are subject to the grand mal type of convulsions I see a radical difference. The former recovers almost immediately from his attack, the latter is prostrated sometimes for days. I have another case of this kind that has come to my notice recently. This boy complains of a slight dizziness at times, following which he becomes unconscious for a momentary period, occasionally loses control of his sphincters, does not fall, or cry out, starts slightly, and then for a few moments continues stupid, finally resuming the work that he had been performing. I do not think it possible to control that type of seizure.

Much has been written about the diet that these patients should receive. I find that an epileptic, of course, progresses most favorably when receiving foods that are most easily digested—in other words those that leave a minimum of residual material. We know that all epileptics are gluttonous, and again that his frequent attacks do not depend so much on the kind of

foods he partakes of, as upon the amount he attempts to gorge himself with. Again, if we were able to change their temperament, their emotions, and what-not, we would then be better able to control their seizures. Truly, the treatment of epilepsy is still in its infancy. We are still experimenting—the predominating factor is still empiricism. A rationalistic treatment, deduced from our present knowledge of convulsive phenomena, is hardly feasible for we are forced to admit that we have not penetrated the veil that envelops these in an unfathomable mystery. We feel that we are doing something, however, when we see an improvement in this or that one's mental and physical condition.

There is a number of other cases that I have not reported that show a decided improvement in their condition. Some, whose vitality seriously impaired by both the administration of bromides and the frequency of their seizures, when placed upon calcium salts have regained in a measure their mental and physical powers. Again, some who have been subject to almost constant care on the wards have become more useful to the institution and are now working industriously in the various departments. If we are able to make a useful individual out of one who is, virtually, a parasite, it must be admitted that we have made some progress in the treatment of this condition. The majority of epileptics that come under our observation are sufferers not only from the effects of their epilepsy, but also from the administration of the bromides, and anyone who comes in contact with this class of individuals must admit that the task of rendering these useful is oftentimes most difficult of accomplishment, and, in the great majority of instances, a hopeless procedure.

Just another word in respect to the use of calcium salts in the treatment of epilepsy. I have found repeatedly that calcium salts seem to exercise but little influence on a series of spasms. In other words, they do not seem to control the spasms directly, but, in all probability, they act indirectly by raising the patient's resisting power which in turn enables his nervous system to inhibit convulsions. Whenever I found a patient having numerous seizures I added sodium bromide gr. x, to the calcium salt

that he was receiving, and noted that the dose of the bromide was sufficient in the majority of cases to control the frequency of the seizures. The prostration which followed the convulsions was not so great as when the patient was receiving the bromide combined with other drugs. Again, I note that the effect of the bromides if administered in this way is not so detrimental to the nervous system. I have in mind now a case that is receiving ninety grains of sodium bromide per day, combined with forty-five grains of the calcium lactate. His mind remains comparatively clear and his physical condition shows no evidences of impairment. He is not having any convulsions now, but before he was placed on this method of treatment he usually had about three spasms per day. He has been with us for only a short time, consequently I am unable to make a definite report regarding him.

Epilepsy has been with us since time immemorial, and its etiology is closely interwoven with that of insanity, and idiocy. Probably in the future we will try to prevent these three conditions rationally. When the public realizes that there is a remedy that will curtail the propagation of these conditions, prophylactic treatment will have made one vast stride toward the solution of that which is not only a baffling medical problem, but one that must deeply interest sociologists as well. But—have we that remedy?

## MOTHERS' AND CHILDREN'S PREVENTATORIUM

BY FRANKLIN W. BOCK, M. D., ROCHESTER, N. Y.

For five years we have been working for the school children of Rochester trying to remove some of the conditions which have handicapped them in their development and trying to demonstrate the relations which bad conditions bear toward physical, mental, moral or social inefficiency. At first, doing special work, I was interested to learn the effect which bad conditions of the ears, nose and throat had upon the life of the child, but I very soon demonstrated what I had long believed, that the man who believes that his special line of work is the only one of importance is quite on the wrong trail.

It is easily demonstrated that the very complex impressionable organism which we call, the child, is influenced for good or ill by innumerable conditions and groups of conditions. These are seldom the same in different children and for that reason it is of the utmost importance that we be able to reason out, if possible, and ascertain the conditions which will make for the most efficient life for every child. If, as we are pleased to say, "every child has a right to be well born," then it must follow as the only logical sequence that every child has a right to be well cultivated, to be placed in such conditions for growth which shall make it possible to become a comfort to itself and a most efficient factor in the life of society.

The work which we did in our nose and throat clinic, I soon realized must be co-ordinated with other branches of the healing art if we were to get ahead very rapidly. The dentists in our dispensary earnestly worked with us to find a way out, and together we finally created in the city an unusual interest among educators and parents in the effect which physical and functional defects have upon development.

It wasn't long before all sorts and conditions of children were being brought to me to be made over into bright and efficient

school children by simply removing their tonsils and adenoids or fixing their teeth. Then it was that I realized that much of the work I was striving so hard to do was of little comparative value. Did I feel that bad teeth and bad breathing were unimportant? Not by any means. But I was selfishly enough interested in my own work to wish it to count for as much as possible and I soon came to feel that in many, many cases my efforts would be as a drop in the bucket unless they were united with other and quite as important lines of work. I came to realize more every day the enormous waste of energy which we are expending in our endeavor to improve human life, because we do not co-ordinate our efforts. I was soon sadly impressed by the facts before me that in spite of the improvement which we had made in mouth, or in nose, or ear, still the great aching void in many a child's life would go on aching just the same, and the possibilities of an efficient life would be little improved. I fear that whether we have been working for the physical, mental, moral, or social well-being of the race we have been too much interested in making a good-looking rung, rather than an efficient rung in an efficient ladder. Our only hope for the future lies undeveloped in our children and unless we can devise some plan of co-ordinating our efforts toward all-round development and efficiency we are sure to have a continuance and increase of the unbalance in human life with which you are all so familiar.

If I did not believe that by your presence at this meeting you were trying to co-ordinate your efforts, I should not venture this communication. If I had not been impressed by the earnest work which you represent, your earnest striving to ameliorate the sufferings of mankind, and if I did not appreciate that while you work largely toward cure, your vision must ever lead you to hope for the day when most of the ills of life will be prevented, I should not venture this suggestion in preventive medicine. And I use the term medicine in its broadest sense as it has to do with the physical, mental, moral or social ill-health of the people.

I believe that, as in our children and not in our adults, lie all our hopes for the future, so must all of our efforts of whatever kind and nature lead us to develop out of our curative work,

means of prevention. Prevention must be the great watchword of the future. As the institutions with which you are connected have demonstrated beyond argument their value, both as means for caring for and curing unfortunates and also as a means of educating the people in higher standards of living, so I believe we must look to an institution for the best efforts and the best results in prevention.

My meditations on the matter have developed an institution which for want of a better name might be called a mothers' and children's preventatorium. Not an institution to prevent mothers and children but one which shall prevent unhappy and unhealthy mothers and children; an institution which shall make of motherhood the joy and blessing it should be, and of childhood the happy stepping stone to an efficient life. Not an institution as exemplified in a building, but an institution co-ordinating every force which makes for a better life. You all realize how much of your institutional work is of no avail because you get your cases too late. Take for instance one of our latest institutions, medical school inspection. Who doubts for a moment that this institution in its best types has been of inestimable value to our child-life; and yet who but realizes that school inspection begins its work too late. after many of the conditions, which retard development, have produced irremediable results. Logically, the thing to do is to begin earlier, but when? If a child's education, as has so often been said, should begin with its grandparents, why do not we begin with them, for isn't its physical well-being quite an important factor in its education? Of course that is impracticable for the present but as this institution is to grow and broaden, the most practicable place to begin is with the mother during the child's intra-uterine life.

The fundamental principle of this institution must be the laying of a firm foundation as long before the birth of the child as possible, and thereafter to supervise constantly the building of the masterpiece which shall be developed upon it. This institution must not be a state or county affair, but a community institution, of simple or complex nature, as the needs of the com-



munity may require; but whether simple or complex, large or small, it must be able to co-ordinate to itself and to its own use every state or national means for the betterment of its mothers and children. But nothing has been said of the fathers. No, bless them, we're not worrying about common stock now for we know that if our preferred stock is represented by a well and happy mother and child, the common stock will not only increase in value but it will draw extra dividends at least three times a day.

But some one says, you will do just what our associated charities are now doing. No, for they deal with cure; we are dealing with prevention. As the fundamental principle of prevention must be the care of the mother and child, so the center of our activities must be the mothers' and children's preventatorium. Because its work is for the best interests of the community it should dare to do what it believes to be right whether it treads upon the toes of interested persons or interests, or not. As it should be for the good of every type and class of mothers its work should be done gently, tactfully and fearlessly. And as it demonstrates that its only interest is in the well-being of mother and child, it should have the trust and co-operation of every person and interest in the community. And only in so far as it is able to show this singleness of purpose may it ask for confidence.

Let us see how it will work. Dr. Blank sends word to the preventatorium that Mrs. A, a patient of his, is shortly to become a mother and he would be glad to have our visitor call upon her. He may wish to have the visitor come to him first for advice before making her visit or he may trust to her wisdom and tact to do the right and proper thing. The visitor calls upon the lady and tells who she is, who sent her, and that she has come to see if in any way she can assist her so that the coming event will be one of great joy and blessing to her and the community. It may take one or many visits before she makes her real friendship for the mother felt. Then she begins to train the mother and teach her things she should or should not do for the sake of her child, and especially when it is to be the first baby she will be able to tell the young mother many things about her duty to herself and child of which she was entirely ignorant before. Now this part

of the work should unquestionably be for rich as well as poor for we all know that many of our well-to-do women are totally unfitted, by lack of proper education, for motherhood. The visitor would find out about the physical condition of the mother and would soon be able to advise the mother if it is necessary to have expert medical advice and care. If she is poor she will be sent to the maternity house, and if able to pay for her own care she will be referred to her own physician or she will be visited by some physician designated by the institution. In this way the visiting nurse becomes the friend of the mother and gradually the way is paved for a happy and healthy delivery and a fair foundation is laid for the future structure.

If she finds that social conditions are such as to handicap the mother she brings into action the co-ordinating force which will best deal with that particular condition. It may be lack of food, lack of rest or even lack of work. It may be the wage earner is sick or unable to procure work, or the children are sick or not strong; it may be lack of executive ability, it may be any one or more of a thousand and one things which may retard healthy gestation and this visitor should bring the proper forces to bear upon the case to eliminate them.

In case of the mother's being a primipara she will be advised to go to the maternity house for her expected delivery or for observation and instruction. During the days at the house before her delivery she assists the maternity nurses in the care of the babies already in the hospital and is especially instructed as to washing, dressing, feeding and management of the baby, so that when her own comes she will be able to keep it well and enjoy it without allowing it to get into the very bad habit of trying to run the house. In the case of a multipara, and especially where there has been a history of accidents at birth, the wisdom of this short time at the house before delivery is very obvious. Three weeks in the maternity house with instructions would send the mother home with a healthy baby, well started on a systematic, balanced life, and the accidents of gestation and birth would be reduced to nil.

When there is already a family in the home the proper forces

will see that it is properly cared for while the mother is in the maternity house. After the mother returns home she is visited regularly, or herself visits the maternity house with the baby for advice and examination. Of course it is understood that from the first visit records are kept of the mother and child and these follow the child from year to year and are in good order and available when the child enters school for the use of the medical school inspectors and the teachers.

When a visitor or inspector or any other person finds a child who is not well it is referred to the children's house for care and advice and treatment. The parents are instructed in its care. All the time parents and teachers are being educated to understand that it is easier to prevent sickness than it is to cure it.

I believe that a system such as this developed in any community would reduce the infant mortality to almost nothing and this would almost never include a preventable death. Of course this isn't all there is to this system of prevention but it is an important part. Of course it is socialism, but what of it? It produces healthy, happy, well balanced human beings at a great saving of energy, expense and life, and I believe that is our principal business here in the earth. Has it been established in Rochester? No, the only place it is well established is in my head, but I have tried it out in a small way in my own practice and it works. I am talking it every chance I get and already I begin to see the light ahead for Rochester.

A plant such as this must succeed and it seems to me that only by it may we hope to catch up with the increasing unbalance in human life. Only by some such plan may we hope to prevent the conditions which make motherhood a burden and childhood a nightmare of trouble, sickness, pain and untimely death.

## THE INSTITUTION FROM A VISITOR'S STANDPOINT

BY C. B. CADWELL, M. D., LINCOLN, ILL.

Upon entering into a discussion of this subject, The Institution from a Visitor's Standpoint, it will not be attempted to draw a picture of the institution with its problems, as the visitor sees it, but rather to discuss the attitude of the management toward any visitor who may come, in whatever capacity.

The reception of visitors in many institutions is an affair viewed lightly, while in others there is more or less stress put upon, and thought given to, this problem. We attach a great deal of importance to the kind of impression made upon visitors, whether they be humble or haughty, ignorant or intelligent, poor or rich. It is our policy to be as perfectly open and free about giving information concerning our work, as is possible. We do not court visitors by any means, discouraging visiting in fact, except among those who are vitally interested. During the year 1909, we had 1398 callers as shown by our Visitors' Register. This record we tried to keep accurately, it being under the constant supervision of either an officer or visitor's attendant, and in no case was malicious marring of its pages allowed, if possible to prevent. So many public registers are made ridiculous by absurdly fictitious names and addresses, near-comic pen sketches, and the like, as to almost completely ruin what might make a permanent and valuable record.

The value of our register in a practical way was amply demonstrated when circular letters were sent—one to each name and address on its roster—stating that a Christmas celebration was to be held for the children; that there were those children who had neither friends nor relatives, children who could be made happier by some small remembrance, such as book, toy, garment or financial offering. The generous responses which came left no room for doubt of the absolute sincerity of the pity and regard which these visitors held in their hearts for our un-

fortunate charges. Many of those, too, who were most generous had no stronger than a general interest. Of the total number of those visitors whose names were enrolled, not less than 95 per cent. were introduced to an officer of the institution who made it a point to see that each one was kindly and courteously treated by any employe with whom he came in contact. Where there was a special object some officer took personal charge of the visitor to make clear whatever point was of interest.

The visitors coming to an institution may, for convenience, be classified into four groups where we find:

1. The relative, guardian, or friend of an inmate.
2. The person interested in charitable work generally, or perhaps in a special line.
3. The person who comes out of mere curiosity.
4. In a public institution, he who comes as a representative from public official life.

Of these, the third group, the curiosity seeker, naturally is the least important. It has been found not only advisable, but necessary in this state to abolish visitations from this class. They were those who wished to see at once, "your bad ones." Many of these people had conjured up a picture in their imaginations of a special type of the feeble-minded—children who were wild and unkempt animals thirsting always for gore, and who must wear leather collars and be kept chained in cages, etc. It has been quite remarkable to note the keen disappointment written on the faces of such visitors when they asked, "And are these the very worst you've got here?" Fortunately this class is much in the minority. You may feel assured that it is no small pleasure to turn away such of their ilk as come seeking for thrills.

As one would naturally expect, by far the greater number of visitors are relatives of inmates. These relatives, of course, have a heartfelt concern that other people, not similarly situated, cannot know. And this applies especially to the parents of a defective child. In many instances the father or mother is so plainly defective that the cause for the child's defect is obvious. Only those who have had experience can appreciate the difficulty which lies in explaining to such parents the reason for the men-

tal faultiness in their children. And nearly all parents, of whatever intellect, are anxious to know just why their child is afflicted. This question will come up almost invariably during the course of the call and a severe test of one's tact is often necessitated. We have noticed that the child's attitude and demeanor, when it first sees the relative who calls, can be of much moment. The child will often cry, apparently out of the fullness of his heart, but in another moment is radiant with joy. On the other hand, he may continue to cry and sob, and the emotional relation in the family is so close that the relative is visibly affected, often showing keen evidence of dissatisfaction and mistrust for the institution, without further inquiry, even though he makes a distinct effort to hide his suspicion. This occurs, as a rule, in the relative of a lower order of intellect.

After the newness of the meeting has worn off and the relative has formed his opinion of whether or not progress has been made, further information is desired. Some there are who ask the institution official a multitude of questions; others ask only a few. Some advance reasonable, intelligent queries, while others ply one with such a number and variety of interrogations, more or less besides the point, that it is absolutely bewildering. "What makes him cry so?" "Can he ever be cured?" "Does he get whipped very much?" "How did he get that scratch on his hand?" "Can't you teach him a trade?" "Does he feel homesick?" "Do you give him enough to eat?" "Do the other boys fight him?" "Does he get sick? He never did at home." "Can't you get him to talk any better?" These will often come with quite astonishing rapidity. It, of course, gives us an excellent idea of the association the child has had at home, and we are enabled to complete our records on those points bearing upon heredity, in a given case, by judicious questioning on our own part. No opportunity offered by the visit of a relative is overlooked for notes to be made that might have a bearing on the case concerned. The parent who comes generally has a genuine interest and will make inquiries about his child's welfare—whether he is happy and contented, or fretful and dissatisfied; about the condition of his clothing; about his schooling and the

possibility of mental improvement; will ask about his general health, what interest the child shows in his work and play, and the nature of the same, etc. The child's version (if he is able to talk) of his life in the institution affords the parent a means for getting information and an index as to what direction his line of inquiry will take.

In giving answer to these questions we endeavor to be quite free and open, our self-protection demanding that when a child is in poor physical condition, failing mentally, unhappy and morose, or is making no general progress, the parent should have a direct and personal knowledge of his child's affairs, so that he may act accordingly. It is surprising to how many comes necessary the explanation that it is not a matter of "cure" in a child's case, but one of improvement only. It is also hard for many relatives to understand why we cannot definitely state within a month or two after the child's admission just how much he will improve if it be not possible to "cure" him. We have found the rule to be that parents are very ready to co-operate in our plans for what is thought wise in the advancement of the children, though occasionally relatives act as if at cross-purposes with all of our efforts. Nearly all relatives unconsciously compare the institution life of the child with his life as it was at home, and many times unfavorably to the institution. They have not had the experience to understand the value of having the child associate with other children who have so many things in common with himself. It is explained to them that here a child is comparatively free from that tormenting and plaguing so common in his life at home; that he has an opportunity to be under the care and guidance of those who are trained along such lines; that his very association with children of like mental calibre tends the better to cultivate his innate powers of imitation in his daily action, whether it be in his schooling, his recreation, or other daily routine. The value of the regularity in diet and meal hours, of sleep periods, of play and work, all under careful supervision, are explained. In fact, our aim is to put these people, so vitally interested, into the closest possible touch with the lives of their children, acquainting them with our problems, and, when

occasion offers, asking for their advice in individual cases that have various personal peculiarities. By so doing we not only get hints that we are often able to use with advantage, but also make the relatives feel that they can assist in doing something to help along our work, which is gratifying to all concerned.

To the one interested generally in charitable work who comes to visit, the information desired is not of such specific nature. His inquiry is usually about things as a whole. He wishes to know how many receive schooling; how many are capable of some useful work; how many are hopeless so far as improvement is concerned; the number of cripples, infirm or acutely ill. He is thus apt to deal with institution statistics. He also wishes to know how the children are housed, clothed, and fed; and at what cost. Or whether we have found this or that method in their management to be good or bad, etc. These visitors are those who can and do appreciate the difficulties that beset the way of the persons in charge of an institution. Therefore, to them are we indebted. It is our steadfast purpose with these people to be quite candid about our problems, for they are the pioneers in the field for the betterment of conditions relating to the handling of dependents the world over. Each official tries to keep in touch with these larger problems in order to give such information when consulted.

The visitor of the fourth group—the representative from public official life, whether he be legislator, member of public charities commission, or in whatever official capacity, occupies a peculiar individual relation to the state institution. He naturally feels a deep responsibility for he in a way has an important part in the guidance of an institution. His visit is one in a different light from the others. He is very free from restraint about asking for information because he feels himself a part of the management. He is interested in all phases of the work, general or specific, and also in the business and financial side. His criticisms, whether favorable or adverse, are given in a spirit of friendliness which leaves no rancor, and can be advantageously used. It is certainly our duty to make his visit as pleasant and instructive as the institution's welfare demands.



But no matter in what capacity the visitor comes, the fact that he is a citizen of the commonwealth of mankind makes him have a kind of paternal interest in the state's dependents. From the visitations by all classes is formed the public opinion of the work an institution is doing, much as public opinion is molded from observation of other lines. Is it not well to have the good will and friendship of every one who comes to see us? And will we not gain that end by extending every courtesy that lies in our power to show visitors just what we have done, and just what we are now trying to do?

## REPORT OF STERILIZATION IN THE KANSAS STATE HOME FOR FEEBLE-MINDED

BY F. C. CAVE, M. D., WINFIELD, KAN.

During the administration of Dr. F. Hoyt Pilcher in the Kansas School for Feeble-Minded at Winfield, asexualization was performed upon fifty-eight inmates, fourteen girls and forty-four boys. As far as I know a report of these cases has never been published, therefore a short resume, twelve years after Dr. Pilcher's work, might be of interest.

Fourteen girls and twenty-two boys now remain in this institution who were unsexed at that time, the others having been taken away by relatives or removed by death. In either case we have no record in reference to their physical and mental condition during the interim between the time of operation and the time of leaving the School.

In 1897, Dr. Barr, of the Elwyn Institution, asked, by means of a circular letter, the following questions. Answering these same queries, basing my data upon observation of these thirty-six castrated individuals now present, will cover their history fairly well.

1. In what proportion of the inmates of your institution do you consider procreation advisable? Answer: None.

2. In what proportion of the inmates of your institution do you consider procreation possible? Answer: Sixty per cent.

3. What would be the probable effect of asexualization upon their mental and moral conditions? Answer: Mentally, I see no especial change in any particular. Their school work shows no marked superiority over others who are in possession of all their organs. Morally, they are not addicted to onanism and other prevalent perversities but this is not because their standard of morality has been elevated, it means that the elimination of physical factors has caused the betterment.

4. What effect upon their physical condition? Answer: The average age at time of operation was twenty years. Of the girls, but one has become obese. Menstruation has ceased in all cases with atrophy of uterus. Nearly all the girls at the period corresponding to the monthly epoch complain of backache, headache, "bearing down" sensations in pelvic region and are obliged in a few cases to cease their household duties and rest in bed. The symptoms being very similar to conditions if flow were present. Atrophy of breasts noted in all cases. All desire for sexual intercourse and all erotic fancies seem to have been eliminated. Several are epileptic, the removal of the ovaries having no influence on their seizures. In appearance of face and body there is no difference whatever, except the atrophy of breasts as noted above and also in nearly all cases a blanching of the entire skin giving the individual a fairer appearance. As to tractability there is no appreciable difference, children of all grades and "conditions of servitude" being kind, affectionate, easily controlled and willing to work to the best of their ability, giving us far less trouble than the same number of normal children would do.

Among the boys, three have become obese. One especially assuming the feminine type, high-pitched voice, development of breasts, loss of hair on face, change of bodily contour. All the boys have the unusually fair skin, and most of them have scanty beards. All sexual desires have been lost and they are impotent in every sense of the word.

5. What operation would you advise? Answer: Oophorectomy in the female and testiectomy in the male. These operations prevent the begetting of defective offspring and also limit lewdness and vice. When the vas deferens is ligated the act of copulation is not prevented and it seems to me this fact would tend to increase sexual debaucheries as the pleasure would not be lessened and the danger from conception would be eliminated. In the feeble-minded the idea of conception, no doubt, never is considered, their mental activities, never extending beyond the consummation of the act itself, but in other types of degeneracy where minds are nearer normal, intercourse would be a frequent occurrence in many instances, to the detriment of the individual

who has hesitated to take the step before through fear of pregnancy. The downward path is then an easy road to follow.

6. At what age would the operation be most effective? Answer: The effectiveness of the operation at any age can not be questioned. A few of our boys and girls were emasculated before puberty. They show no material difference in any respect from those whose sterilization occurred during their early adult life.

From observing these cases for the past three or four years, I would say that the degenerate, whether he be feeble-minded, insane, a habitual criminal or any other type of abnormality, who has the surveillance and guardianship that an institution affords and where he presumably will not have the opportunity of returning to public life to mingle and reproduce his kind, the operation producing sterilization is not essential. The delinquent who is not confined is the individual who needs surgical treatment and I am in favor of a legal enactment that will give the state a right to demand such an interference. When in our institution we have several girls who are mothers of two or more illegitimate children, and another feeble-minded woman has just been received who has five to her credit and is soon to be confined with the sixth, and from other institutions of like character similar reports are being frequently published, it is time some drastic action were taken to stem the ever increasing tide of weak-minded individuals who are demanding more and more room in our charitable institutions by their increase.



**DR. CHARLES T. WILBUR**

On the evening of August 19, 1909, at Kalamazoo, Michigan, the spirit of Charles T. Wilbur passed on to its eternal home. Though not in active connection with this association for a number of years, he was one of the six great men who founded it. One by

one they have passed away—Seguin, H. B. Wilbur, Knight, Kerlin, Doran and, finally, Charles T. Wilbur.

The death of Dr. C. T. Wilbur gives occasion, not only to recall his services to the world as a citizen and as a member of this association, but also to revert to the group of men to which he belonged. Truly, there were giants in those days! Dr. Edouard Seguin, the great prophet, whose brilliant mind, sympathetic nature and fruitful study and research, not only blazed the course but established enduring guide posts along the way, affording now, as then, unerring direction to those who have followed in his footsteps! Dr. H. B. Wilbur, a man of executive and administrative ability, of strong personality, of broad sympathies, uncompromising in his insistence upon humane methods, not only for the care of the feeble-minded but for that of the insane, the first great demonstrator in America of all that Seguin prophesied. Dr. Doran, the personification of executive ability, the organizer of the then greatest institution of the kind in the world, maintaining the integrity and highest usefulness of the institution under his care, during the ever changing administration of other institutions of his state through the mutation of politics! Dr. Knight, whose beautiful manly character was respected in every relation of life, a peace-maker among the more aggressive and combative members of this devoted group! Dr. Kerlin, the suave convincing and able representative of the work for the feeble-minded in this country, and the leading factor in determining the policy of this association for his lifetime! Finally, Dr. Charles T. Wilbur, organizer and administrator, the capable teacher, and the aggressive promoter of the extension of our work through many states!

Dr. Wilbur was born in Newburyport, Mass., May 18, 1835. His father was Rev. Hervey Wilbur, a Congregational clergyman, one of the pioneers in the establishment of Bible-classes, one of the first, if not the first, to compile and publish a Bible-class text-book in this country. Dr. Wilbur attended the public schools of Newburyport until sixteen, when he entered a mercantile house in Boston, remaining there until his twenty-first year. In 1857 he commenced the study of medicine. While a student he became connected with the New York State Asylum for Idiots as a teacher. During his stay at Syracuse he took up the investigation of the various forms of dementia. In 1858 he went to Columbus, Ohio, and became Assistant Superintendent of the Institution for Idiots at that place. It was here that he met Miss Peyton, to whom he was married in 1859. During that year he went to Lakeville and was connected for a time with the School for Feeble-Minded, whose history has been associated ever since with the Knights. After taking his medical degree in 1860 from the Berkshire Medical College, he moved to Marietta, Ohio, and commenced the practice of medicine. In the year following he entered the volunteer service of the army and was commissioned as assistant surgeon of the 59th Ohio Infantry. He served in Kentucky, Tennessee and Mississippi under General Buell, and participated in the battle of Shiloh and all the skirmishes and engagements incidental to the siege of Corinth. On June 22, 1862, on account of a malarial fever, he returned home to recruit his health, and in the following August was commissioned as assistant surgeon of the 59th Ohio Infantry, becoming surgeon June 14, 1864, serving with this regiment until the mustering out in August, 1865.

In September, 1865, Dr. Wilbur removed to Jacksonville, Illinois, and was selected, because of his special qualifications, to take charge of the Illinois Institution for the Education of Feeble-Minded Children. In 1870 he received the degree of M. A. from the Wesleyan University at Bloomington, Illinois.

In 1883, he resigned his position at Lincoln and removed to Kalamazoo, where he established the Wilbur Home for Feeble-Minded. This he managed successfully until the time of his death.

Dr. Wilbur was a member of the Military Order of the Loyal Legion of the United States and was Companion Surgeon at the time of his death.

These facts in the life of Dr. Wilbur, taken from other publications, are sufficient to show his wonderful activity, his versatility and his brilliant attainments.

His personal qualities have been fittingly eulogized in other places by those who knew him better, personally, than any of the members of our association at the present time. The writer's personal acquaintance with him was made during the period from 1880 to 1883, the last three years of his connection with the Illinois Institution for the Feeble-Minded, during which time, this institution was regarded as a model. Dr. Wilbur was a man of great personal force, conscious of his correct insight into the needs and requirements of the feeble-minded in the state where he was engaged in public service, and who had a grasp of the situation in advance of the public conception of it at the time he left the work. This temperament, under the existing conditions, made him very reluctant to yield his views even to the powers to whom he was responsible. It was this fact which led to his resignation from the Lincoln Institution in 1883 and to



accept very reluctantly the verdict of fate that brought about his resignation. As a result, some personal feeling developed between himself and his successor and this finally caused him to withdraw from the association at its meeting at Glenwood, Iowa, in 1884. At the thirty-first annual session at Waverley, Mass., 1907, Dr. and Mrs. Wilbur attended, and the former gave a short account of the organization of the association at Elwyn, in 1876. He was heartily welcomed by the members present who appreciated the Doctor's sterling qualities and had regretted his non-affiliation for so many years.

The Wilbur Home at Kalamazoo was the second monument erected to human welfare by Dr. Wilbur and his faithful wife, the ever active and unusually capable companion in his life-work.

Forty-six years of continuous service for the feeble-minded, is its own tribute.

A. C. R.

# JOURNAL OF P SYCHO-A STHENICS

VOL. XV

March and June, 1911

Nos. 3, 4.

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## MINUTES OF THE ASSOCIATION

The thirty-fourth annual session of the American Association for the Study of the Feeble-Minded was opened at Lincoln, Ill., Monday, May 16th, 1910, at 8:00 o'clock P. M.

Mr. C. J. Lorch was detailed as stenographer through the courtesy of the Board of Administration.

The meeting was called to order by President (Miss) Mattie Gundry. The following members were present: Miss Mattie Gundry, Mr. E. R. Johnstone, Drs. Hardt, Kutnewsky, Chamberlain, Goddard, Wilmarth, Smith, Mogridge, Dawson, Rogers, Velura Powell, Kenyon, Weeks, Clark and Mrs. Frank Reed.

There were present as visitors at the different sessions, Gov-

ernor C. S. Deneen, of Springfield; Mayor E. Beall, of Alton; Dr. Douglas Singer, Hospital, Ill.; Hon. L. G. Sherman and Judge B. R. Burroughs, Springfield; Mr. Amos Butler, of Indianapolis, Ind.; Mrs. H. G. Hardt, Dr. Baldwin, of Chicago; Mrs. A. W. Wilmarth, Mrs. C. T. Wilbur, Miss Elizabeth Fallon, Mrs. C. E. Nash, Miss Jackson, Mrs. W. H. C. Smith, Miss Mary Campbell, Mrs. Brown.

Dr. Hallowell, of Vineland, sent her good wishes to the association and regrets for necessary absence. Letters were also read from the Hon. Wm. Pryor Letchworth and from Mrs. Elsie Seguin.

The following committees were appointed by the chair: Organization: Drs. Wilmarth, Kutnewsky and Chamberlain. Time and place: Drs. Smith, Weeks and Goddard. International Prison Congress: Drs. Bullard, Keating, Mr. Johnstone and Dr. Rogers.

The following members were unanimously elected: Dr. Ethan A. Nevin, Newark, N. Y., (active); Miss Charlotte L. Hoskins Miner, Sheepshead Bay, L. I., (associate); Miss Anna E. Sullivan, Washington, D. C., (associate); Miss Grace Boehne, Rochester, N. Y., (active); Dr. L. L. Button, Rochester, N. Y., (active); Dr. Carrie Frost, Chippewa Falls, Wis., (active); Dr. H. M. Carey, Spring City, Pa., (active); Dr. Wm. Healy, Chicago, Ill., (active); Dr. Geo. S. Bliss, West Pownal, Me., (active); Dr. Edmund B. Huey, Lincoln, Ill., (active); Dr. Helen MacMurchy, Toronto, Canada, (active.)

The Secretary explained that the financial difference between active membership and associate membership was \$3.00,—the former costing \$5.00, the latter \$2.00. The active membership carries the voting privilege.

The President's address, by Miss Mattie Gundry, followed. (See p 73.)

Dr. Hardt having arranged for the members to make a special visit and inspection of the school and institution on the following morning, an adjournment was taken till 1:30 P. M., May 17th.

The forenoon of Tuesday, May 17th, was spent in visiting

and inspecting the various departments of the institution.

Immediately after luncheon a demonstration of the Binet mental age test was given in the research laboratory of the institution, in the presence of the members and visitors, by Dr. E. B. Huey, Director. Next followed a paper, *The Court and the Mental Defective*, by William Healy, M. D., (p. 44, Vol. XV.) Mr. Johnstone read for the author the paper, *Application of Mendel's Law to Human Heredity*, by C. B. Davenport, M. D., Cold Spring Harbor, N. Y., (p. 93, Vol. XV.)

A telegram of greeting was received from Dr. Fernald, to which reply was sent; also telegram sent to Dr. Hallowell.

The association assembled in the Chapel at 8:30, P. M. One of the boys of the school rendered very happily a vocal number entitled, *Illinois*.

The Hon. C. S. Deneen, Governor of Illinois, honored the occasion by giving an address, *Wards of the State*. This was followed by two papers, *Four Hundred Children Classified by the Binet Method*, by H. H. Goddard, Ph. D., Vineland, N. J., (p. 17, Vol. XV.), and *Mental Examination of Retarded Children*, by E. B. Huey, Ph. D., Lincoln, Ill., (p. 31, Vol. XV.)

On the morning of May 18th, the Board of Administration, through Dr. Hardt, invited the association to take a trolley ride to the state capital, where carriages were provided for a visit to Lincoln's home and monument. A pleasant call was made upon the board and their offices shown, after which Governor Deneen received the members in his private office. After a delightful drive about the city of Springfield, the party returned to Lincoln and held an afternoon session in Chapel Hall at 3:35. Papers were read as follows: *Classification of Mental Defectives*, H. Douglas Singer, M. D., Hospital, Ill., (p. 3, Vol. XV.); *The Institution from a Visitor's Standpoint*, C. B. Caldwell, M. D., Lincoln, Ill., (p. 117, Vol. XV.); *The Treatment of Epilepsy with Especial Reference to the Use of Calcium Salts*. A. L. Beier, M. D., Chipewawa Falls, Wis., (p. 101, Vol. XV.); *A Few Remarks on the Different Forms of Paralysis with Their Complications*, Wm. J. G. Dawson, M. D., Eldridge, Cal., (p. 96, Vol. XV.); *Special Report*

from Kansas State Home, F. C. Cave, M. D., Winfield, Kas., (p. 123, Vol. XV.)

A committee consisting of Drs. Mogridge, Smith and Kenyon was appointed to audit the treasurer's report.

At 8:00, P. M., the pupils of the school gave the Fairie Queen in Chapel Hall, a very pleasing entertainment, doing credit to the children and their teachers.

The association then assembled in the parlors and heard the report of the committee on Tentative Classification, presented by Dr. Goddard in the absence of the chairman, Dr. Fernald, which, after full discussion and some amendments, was as follows:

1. That the term, Feeble-Minded, be used generically to include all degrees of mental defect due to arrested or imperfect mental development as result of which the person so affected is incapable of competing on equal terms with his normal fellows or managing himself or his affairs with ordinary prudence.

2. That the feeble-minded be divided into three classes, viz.

Idiots—Those so deeply defective that their mental development never exceeds that of a normal child of about two years.

Imbeciles—Those whose development is higher than that of an idiot but does not exceed that of a normal child of about seven years.

Morons—Those whose mental development is above that of an imbecile but does not exceed that of a normal child of about twelve years.

This grouping admits of the use of the older pathological terms, such as hydrocephalic, microcephalic, paralytic, etc., as adjectives indicating the respective complications.

Dr. Rogers moved the acceptance of the report of the committee on the tentative classification with the exceptions made; seconded by Mr. Johnstone and unanimously carried.

The committee on organization, Dr. Wilmarth, chairman, reported as follows:

For President, Dr. Wylie; Vice President, Dr. Hardt; Secty-Treas., Dr. Rogers; editorial staff, same as preceding year.

Report unanimously adopted.

The committee on time and place, Dr. Smith, chairman, was

continued and instructed to report to the Secretary later.

The Auditing Committee, Dr. Mogridge, chairman, reported that they had examined the Treasurer's accounts and audited same, finding them correct. On motion, the report was adopted.

Dr. Rogers presented the following resolution:

BE IT RESOLVED, that this association hereby expresses its appreciation of the generous hospitality accorded to it since coming to Lincoln, not only in the institution itself, but in providing, through the courtesy of the Board of Administration, a delightful trip to Springfield and an opportunity to visit the home of Lincoln, the offices of the Board of Administration, and especially to meet Governor Deneen, the loyal friend of the state institutions, at his official headquarters.

Also, the association wishes to hereby express its gratification over the marked improvement in the conditions characterizing the school for the feeble-minded during the administration by which it has again risen to the ranks of the very best in this country. The transformation has been truly marvelous. All connected with the institution have been more than courteous; the children have demonstrated the excellent training that is being carried on, and the members of this association are returning to their homes with new inspirations for their own work and feel satisfied that the attitude of the State Board of Administration is such that this standard will be maintained. This institution and the officials responsible for it, and the State, are to be congratulated upon the establishment here of a department for psychological research, this being the first official recognition of this work in any state institution for the feeble-minded in this country.

IT IS FURTHER RESOLVED, that a copy of these resolutions be sent to Doctor and Mrs. Hardt, to Governor Deneen and to the State Board of Administration.

During the evening a committee representing the various fields of work in the heredity of defectives and delinquents, held a conference on the methods of charting\* family histories.

\*The work of this committee has been further amplified and published under the direction of Dr. C. B. Davenport, Cold Springs Harbor, N. Y., Eugenics Record Office, Bulletin No. 2.

The committee consisted of Mr. E. R. Johnstone and Dr. H. H. Goddard, of Vineland, N. J., and Dr. A. C. Rogers, of Faribault, Minn., representing the feeble-minded; Dr. Wm. T. Shanahan, of Sonyea, N. Y., and Dr. David F. Weeks, of Skillman, N. J., representing epileptics; and Dr. Wm. Healy, of Chicago, Ill., representing the work with juvenile delinquents.

Adjourned.

## TREASURER'S REPORT—1909-1910

## Cash Dr.

Balance on hand June 18, 1910.....	\$336.06
To Cash Dues, 1905.....	7.00
" " " 1906 .....	16.00
" " " 1907 .....	13.00
" " " 1908 .....	53.00
" " " 1909 .....	100.00
" " " 1910 .....	5.00
" Sale of Journals .....	136.14
	<hr/>
	\$666.20

## Cash Cr.

By Stock and Envelopes for Journal.....	\$ 59.27
" Proofreading .....	176.00
" Printing of Journals, programs, etc. ....	93.67
" Engraving Cuts for Journals .....	5.68
" Postage .....	16.62
" Telegrams and Telephone .....	2.11
" Freight and Express on Stock, etc. ....	9.48
" Stenographic Reporting (Chippewa Falls meeting) .....	80.00
" Traveling Expenses, etc., for Reporter.....	5.10
" By Clerical Work .....	10.00
	<hr/>
	\$457.93
Balance on hand .....	\$208.27
	<hr/>
	\$666.20

May 14, 1911.

Audited and found correct.

W. H. SMITH,  
E. L. KENYON,  
GEO. MOGRIDGE.



## REPORT OF THE MASSACHUSETTS COMMISSION

The commission, of which Dr. W. E. Fernald was chairman, appointed by the governor of Massachusetts in pursuance of an act of the General Court, on April 10th, 1910, and directed to investigate the question of the increase of criminals, mental defectives, epileptics, degenerates and allied classes, found as a result of their investigation, contrary to the general impression, that crime, insanity, feeble-mindedness, epilepsy and pauperism are not increasing at a greater ratio than the ratio of increase in population. As to crimes, the commission states in its report that if the total number is considered, the figures indicate a diminished ratio, but when the different classes of crimes are studied, it is seen that there has been an increase in the more serious offenses. A large percentage of the murders committed during the past few years, in the opinion of the commission, has been committed by foreigners recently admitted and so not truly representative of the general body of the community.

While the ratio of insane patients treated in the hospitals has increased over that of the population and while there has been a large increase in the number and ratio of the feeble-minded and epileptics under treatment in the institutions during the past twenty years, this increase is explained by the enlarged accommodations for patients and the better methods of treatment resulting in an increased expectancy of life and accumulations from a lesser discharge rate among the insane and feeble-minded. The great increase in the visible number of the latter in the community the commission regards as a result of a more common recognition of this form of defect and not as an actual increase in the ratio of feeble-minded persons to the general population.

As to pauperism, evidence was found of a decrease rather than an increase.

## BOOK REVIEWS

L'INTELLIGENCE DES IMBECILES. Alfred Binet et Th. Simon. *L'Année Psychologique*, 1909. Pp. 1-147.

In this lengthy article the authors report on a number of

general observations and tests on feeble-minded (the term "imbecile" is used generically for all grades) and in conclusion give a schema of thought intended to explain the difference between the feeble-minded and the normal mind. The study is of interest not chiefly because of a thoroughness of observations and testing, for this has been done mostly in a rather perfunctory way, but because of the many brilliant analyses and interpretations. They point out that we have given in the study of the feeble-minded a new method of psychogenics. Assuming, as they seem to do, that the different grades of feeble-mindedness may be regarded as representing different degrees of normal development, we may group the former into the different successive grades and then study the development of any single mental process from group to group. In this manner they propose to study the following: (1) Character; (2) attention; (3) voluntary effort; (4) movement in writing; (5) intelligence of preception; (6) pain; (7) association of ideas; (8) intellectual activity compared with the level of intelligence; (9) arithmetical faculty; (10) reasoning; (11) suggestibility; (12) wrong ideas and judgment.

The question as to the relation between character and intelligence is an old and unsolved one. The authors single out only two elements of character, docility or submissiveness, and its opposite, hostility or resistiveness. From their general observations on the feeble-minded they note that neither element is characteristic of any grade of intelligence, but that both are found in all grades. On attention they give only general and no new observations. Voluntary effort is tested in four different ways: (a) Reaction time; (b) rapidity of movement; (c) number of words given in a fixed time; (d) immediate memory for numerals. A usual form of the reaction time experiment was used, and they conclude that this is a good measure of attention. Turning the handle of a music box was employed to determine the speed of movement by finding the time per turn. Want of emulation is the cause of the slow speed found with defectives. Two factors involved determine the number of words given in a fixed time, good will or zeal, and extent of vocabulary. Fee-

ble-minded fall considerably below the normal in this test, which shows that the former are especially incapable of effort directed towards ideas. The test on immediate memory for numerals heard is regarded as of indisputable value in showing a weak attention. In the movements in writing a series of grades of writing is obtained with defectives of different grades that runs quite parallel with what is found with normal children of different ages. Thus, in general, idiots make mere marks only. Low grade imbeciles make mere marks and some very rough forms. Middle grade imbeciles approach the forms of letters in some of their markings. High grade imbeciles make some letters and figures distinctly. (This is the reviewer's description of the specimens the authors give.) Sense perception is apparently a complex of several processes, space perception seeming to imply, for example, sensation, association, comparison, fine perception of differences and resemblances. It is difficult to understand how an idiot can be capable of it. The "intelligence of perception," in the authors' terminology, was tested by determining the degree of sensory discrimination for weights, and for different lengths of lines. Allowing for inattention and lack of effort, the feeble-minded show a delicacy of perception in the sensory discriminations made that is not much below the normal. This result is difficult to explain psychologically. The biological explanation of great utility for life is vague, psychologically considered. The sense of pain probably involves two factors, physical sensation, reinforced by the psychic reaction of fear, imagining of danger and restlessness giving pain its volume. The frequent apparent great dullness of the sense of pain in idiots is explained by the absence or deficiency of this psychic reaction. Testing the association of ideas consisted of determining the association time and the character of the associations. A word is pronounced to the child and he gives the first word this suggests. The time is taken with a stop-watch. The results often show a shorter association time with the feeble-minded than with the normal. (This is quite in opposition to what other investigators have found.) This is explained on the basis that normals do not really give the first word suggested, but choose, which is

a mark of intelligence. From the character of the associations one can distinguish only the extreme grades of defectives. Activity of intelligence and level of intelligence are ordinarily confused in that a very active intelligence is taken to be of high grade, and an inactive one of low grade. Their observations give striking exceptions to this. Some defectives are very loquacious, are apparently full of ideas, show a very active intelligence, but are yet of quite low grade. The arithmetical faculty involves two distinct operations, a sensorial process of perceiving the plurality, merely, of concrete objects, and a verbal process of applying the number names to these pluralities, counting them and making them undergo various arithmetical modifications. The former animals possess. Tests that do not involve the latter show that the feeble-minded are not so much below the normal in the sensorial process of perceiving plurality. Their great lack in arithmetical ability is due to a deficiency in the other factor. They have no idea of the meaning of the number names. Reasoning and intelligent acts in general were tested in three ways. First, with pictures. The number of things enumerated in a picture is a pretty good index of the grade of intelligence. In general, low grades simply enumerate the things seen. A higher grade adds description, and a still higher grade may give interpretations of the subjects of the pictures. Second, in defining words. Three grades of definitions, representing three grades of intelligence, are obtained. (a) Mere repetition of the words to be defined. (b) Definition according to use of the things defined; (c) Definitions better than according to use. Third, a "game of patience." A card is cut into ten pieces which the child is asked to put together again, after a copy of another card intact. The time taken is no good indication of the grade of intelligence, but the manner in which the task is attempted is some indication. The greater suggestibility of the feeble-minded is shown by several simple tests, including what would usually be called hypnotism. A picture was shown two defective children who were then asked suggestive questions about it to be answered from memory. The questions were about things not in the picture. Normals accept the things as present thus

suggested about half the time. One of the defectives always did so, the other only a little less often. Feeble-minded are nearly always subject to the suggestion in such questions as "Is it not so?" and the like. In another test a bowl of pins is emptied on a table before some feeble-minded children and they are asked to put them into the bowl. When the task is completed the bowl is again emptied but the command to pick them up again is not given. Usually the children proceed to do so through the force of the suggestion given in emptying the bowl. Several instances of hypnotic suggestions are also reported. They observe two kinds of suggestibility: (a) suggestion involving ideas and hallucination, and (b) suggestion involving only acts, speech, imitation. Feeble-minded are subject to both kinds, but there seems to be no indication of a regular relation between degree of suggestibility and grade of intelligence. As to wrong ideas and judgment, it is evident that feeble-minded have but little judgment, but it would not follow from this that they are more subject to erroneous ideas. Yet the latter is the case. Wrong ideas are of three kinds: (a) inexact use of words, as found in senile dementia and aphasia; (b) systematized delusions, as found in melancholia; (c) wrong ideas due to defect of attention, reflection, and ideational control, as found in feeble-mindedness. The feeble-minded make false statements because they adhere to the first suggestion that occurs to them. They have a better imagination than they have ability to control it. There is no regular relation between the prevalence of wrong ideas and grade of intelligence.

What, now, is the essential difference between the mind of the feeble-minded and that of the normal? The general impression one gets is that the difference lies particularly in the intelligence. But this is a vague term which we understand only very inadequately. The authors offer a schema of thought which is to answer this question. They point out that thought is made up of three distinct elements: (a) a direction; (b) an adaptation; (c) and a correction. All thinking requires a directive idea which, in carrying out any mental or motor act, is a veritable order that we give ourselves, although we do not always do it

consciously. With the feeble-minded this directive idea is deficient in two ways. First, it may be entirely absent because the task in hand is not understood. Second, it is present at the beginning, but does not continue. The directive idea alone does not imply progress of thought. This latter is the function of adaptation. The nature of the ends we choose is determined more by our emotional and instinctive life than by our intelligence. But what the intelligence does is to combine the means to obtain the end. This is its proper function and constitutes adaptation. It is perhaps needless to say that the feeble-minded lack this ability to combine means to obtain an end. The third element in thought, correction, has been called by various other names. It is essentially a faculty of control having for its object our own activity. In adaptation the means to an end are found, and in correction this end is judged. In fact, control intervenes to assure us that the means found in adaptation are adequate. Correction is at fault in the feeble-minded.

It remains to be seen how much this schema of thought, rather inadequately stated in this brief review, can aid us in the study of the feeble-minded. On first thought, it seems to the reviewer that it represents rather a new description of some of the important and essential differences between the feeble-minded and normal mind, many features of which we have, however, long recognized and have been accustomed to describe in other terms. However, the authors are undoubtedly right in contending that we are as yet at least unable to adequately describe feeble-mindedness in terms of the old categories of memory, attention, judgment, reasoning, etc. F. KUHLMANN.

MOTO-SENSORY DEVELOPMENT. Observations on the First Three Years of a Child. George V. N. Dearborn. Baltimore; Warwick & York, Inc., 1910, Pp. 1-215.

In this book are given the observations on the development of the author's child, a girl, during the first three years after birth. It differs from similar studies by Perez, Preyer, Moore, Shinn, Major and others chiefly in the fact that the observations are all given apparently in the form of the original notes taken

daily or at least weekly, without any attempt to arrange and discuss them systematically. Thus, they are grouped chronologically from the first to the 1095th day. Copiously scattered throughout the text are comments on the daily observations. These are given in smaller print for the most part. The last ten pages of the book are devoted to general "Inductions", a "Chronological Epitome of the Observed Development", arranged by weeks, and an "Alphabetical Arrangement of Various First Appearances" of activities in the child's development, and an index. The manner of recording the observations, as well as their authorship, insures their scientific value, and readers will have no hesitancy in accepting the author's modest claim that "in general the facts reported in these notes are reliable, however much at times their interpretation may be at fault." Perhaps a little more careful editing of the notes might have improved the presentation and made the essential facts observed more readily accessible. The author does not always keep observation and interpretation separate, and observations of a personal rather than a scientific interest are also often included in the notes, both of which would have been better placed in the smaller print regularly given over to comments. The book is not suited, and obviously not intended for the general reader. It merely gives the raw material of observation with chance discussions. But readers of the *Journal* will find it a valuable addition to a body of observations much in demand by all students of feeble-minded children. These more minute facts concerning the earliest development of the normal child will soon furnish us the materials by means of which we shall be able to diagnose mental defect at a much earlier age than we have so far been able to do. The importance of the earliest possible diagnosis we all appreciate.

F. KUHLMANN.

TESTS FOR PRACTICAL MENTAL CLASSIFICATION. W. Healy, M. D., and Grace Fernald, Ph. D., Psychological Review Publications. The Psychological Monographs, Vol. XIII, No. 2, March, 1911. Pp. 1-53.

In this monograph the authors give an account of twenty-two

mental tests which they have used in the Juvenile Psychopathic Institute of Chicago in making the mental examinations of children appearing in the Juvenile Court. The tests have been selected with the help of advice from many prominent American psychologists, and most of them have been used previously by others for the purpose of mental diagnosis. They have added a few new ones, and in nearly all cases made some modification of the others. Their aim has been to get a set of tests particularly adapted for the examination of children over ten years of age, and brighter than the institutional type of feeble-minded. For the others the Simon-Binet system of tests was used.

Space here will not permit an adequate description of the individual tests, but a brief enumeration will give some idea of the nature of the tests that have been selected. Tests I and II are picture puzzles. Parts of complex pictures and also geometrical forms are cut out from the pictures and mixed up. The child is asked to reconstruct the pictures by replacing the parts cut out. Tests III and IV are form puzzles. In III a rectangular frame must be exactly filled with five rectangular pieces of different shape and size. The test was suggested by Prof. F. N. Freeman of the Chicago University. Test IV is similar, but more complex, suggested by Prof. W. F. Dearborn of Chicago University. In Tests V and XIV the task consists of opening a "puzzle box." In each case the box may be opened by working a series of different kinds of locks in a certain order. The boxes are similar to puzzle boxes used by Thorndike, Kinnaman, and others in studying animal behavior. In Test V the child is given the box and simply told to open it. In Test XIV he is told just how to open it, thus making the two tests quite different in nature. Tests VI, VII, VIII, XII, and XIII are memory tests. Test VI is to test the accuracy of memory, a complex picture being used to memorize and describe from memory. It is an adaptation from tests used by W. Stern and many other German students of this question. Test VII is one of Binet's test of memory for geometric forms. In Test VIII the task consists of learning the associations between geometric forms and numerals. A series of nine forms, each with a numeral, 1 to 9, is shown the child. Un-



der this are arranged the forms alone in irregular order. The child must write in the corresponding numerals for several blanks, which he will learn to do the faster the more readily he learns the associations between forms and numerals. The original form of the test was designed, I think, by Dearborn. Test XII tests the memory for a passage the child himself reads, and XIII does the same for a passage that is read to him. The amount recalled is determined in the usual manner of this sort of test. Tests IX, X, and XI are similar in nature, and test chiefly the power of visual imagination. In IX two lines crossing in the form of a large X are shown with numerals 1 to 4 placed in the angles made by the lines. Then the angles alone of the dissected X are shown and the child must fill in the corresponding numerals. In Test X four lines cross at right angles as in the children's game of tit-tat-to, and the angles and parts are numbered in regular order from 1 to 9. The procedure is then as in IX. In XI a code "used for secret correspondence during the civil war" is used. It combines the cross lines of IX and X, the angles and parts being now filled with the alphabet instead of numerals. Each set of cross lines is duplicated adding a dot to each angle and part so as to make up the twenty-six places for the alphabet. This arrangement is first shown the child; then a series of these angles and parts without the letters. To get the message this series gives the child must fill in the corresponding letters from his imagination. In each of these three tests the numerals or letters are arranged in a regular order that is readily grasped, so that the memory factor is reduced to a minimum. Tests IX and X were suggested by Dr. D. P. MacMillan. X has been regularly used by Dr. F. G. Bruner in examining Chicago public school children. Test XV is a familiar association test in which the child gives a word as quickly as he can that means the opposite of one pronounced to him. The association time is taken with a stop-watch. XVI is a motor test suggested by Prof. G. M. Whipple, in which the child taps as rapidly as he can with a pencil in each of a group of squares for thirty seconds. XVII is a writing test in which the child writes a standard sentence and his name. In XVIII the task is number work based on

the work of the grade in which the child was last, the nature of which is not further indicated. XIX is a reading test likewise "suited in difficulty to the grade which the child has reached in school". In XX the examiner plays a game of checkers with the child. In XXI the child answers questions involving a moral judgment on situations described to him in short stories, which are borrowed from Prof. F. C. Sharp who has used them in a study on the moral judgment. XII is termed an "Information" test and consists of some seventy-five questions aimed mainly to bring out the child's mental content.

In most instances fairly detailed directions are given for conducting the tests. Methods for scoring the results are also indicated. Upon the basis of the results obtained the child is classified under one of thirteen classes as follows:

- (1) "Considerably above ordinary in ability and information—the latter estimated with reference to age and social advantages.
- (2) Ordinary in ability and information—the latter estimated with reference to age and social advantages.
- (3) Native ability fair and formal educational advantages fair or good, but very poorly informed.
- (4) Native ability fair and formal educational advantages fair and good.
- (5) Native ability distinctly good, but formal educational advantages poor.
- (6) Native ability fair and formal educational advantages poor.
- (7) Native ability poor and formal educational advantages poor.
- (8) Native ability poor and formal educational advantages good or fair.
- (9) Dull from known physical causes, including epilepsy.
- (10) Subnormal mentality—considerable more educability than the feeble-minded.
- (11) Feeble-minded. (Moron).
- (12) Imbecile.
- (13) Psychoses."

It will be noted that this classification is not nearly as elaborate as the number of classes alone would indicate, as it involves only four grades of native ability above the feeble-minded, three grades of normal native ability.

The authors state emphatically that they regard these tests and methods as "strictly tentative," reserving for the future such additions and eliminations as further experience may dictate. This commendable spirit combined with the rare opportunities offered by the Juvenile Psychopathic Institute and Dr. Healy's own enthusiasm for the work should be a sufficient guarantee for most valuable practical results in a field where they are at present so much called for and needed. The problem of finding more accurate methods for the diagnosis of mental defect is not, from the nature of the case, one that can ever be finally solved, but one in which we can reasonably hope to make constant substantial progress. All students of the problem will agree that the tests the authors' report here represent such progress. However, they suggest some criticism in the present form. One regrets the absence of norms for all of the tests, which would show us definitely the performances of normal children. Such norms the authors promise as forthcoming. But it is difficult to judge the value of the tests, impossible to judge them at all accurately, without such norms. How any child's native ability is to be classified on the basis of the results obtained, and without the norms to go by, will be determined after all by the judgment of the examiner as to what the normal child ought to be able to do in the tests, instead of by a scientific method from which the personal factor is practically or entirely eliminated. It is needless to argue that this judgment of the examiner will surely often be seriously at fault. The authors state that their "knowledge of the norms for the different tests is exceedingly unequal." It is not clear whether this knowledge refers to their own judgment as to what the norms probably are after having used the tests extensively on children whose mentality they did not otherwise know, or whether it refers to results obtained with children known from their school records to be normal, but which are reserved for future report. A second criticism is that a num-

ber of the tests are of such a nature that the personal factor of the examiner's judgment can never be eliminated. Such in a measure are Tests I, II, III, IV, V, XIV, XV, and in a lesser degree, XXI and XXII. In these it is not the time taken nor even the number of errors made by the child always that mainly determines his mental ranking. It is the character of the errors and the general manner of his performance that count for most. But this is a matter of the examiner's judgment. The ideal tests would be those for which the results can be stated in mathematical terms, and for which the performances of different normal children are definitely known to vary within narrow limits which have been exactly determined.

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